Facilities and Other Resources

Resources and other facilities are presented and organized under three headings: 1) CTSI Facilities and Resources (N=36), 2) UF colleges (N=16) and 3) other facilities and resources affiliated with the CTSI (N=60).

**CTSI FACILITIES AND RESOURCES**

- Biotility (Center of Excellence for Regenerative Health Biotechnology)
- Center for Cellular Reprogramming
- Clinical and Translational Research Building
- Consent2Share
- CTSA Trial Innovation Network
- CTSA Accrual to Clinical Trials Project
- CTSI Biomedical Informatics Program
- CTSI Biostatistics, Epidemiology and Research Design
- CTSI Biorepository
- CTSI Clinical Research Center
- CTSI Communication and Dissemination Program
- CTSI Human Imaging Core
- CTSI Implementation Science Program
- CTSI Mentor Academy
- CTSI Network Science Program
- CTSI Office of Clinical Research
- CTSI Recruitment Center
- CTSI REDCap
- CTSI Research Coordinator Advisory Council
- CTSI Scientific Advisory Committee
- CTSI Service Center
- CTSI Southeast Center for Integrated Metabolomics
- CTSI TL1 Predoctoral Training Program
- CTSI Training and Research Academy for Clinical and Translational Science (TRACTS)
- CTSI Translational Workforce Development Program
- OneFlorida Clinical Research Consortium
- ResearchMatch
- Sentinel Network
- UF Health Integrated Data Repository
- UF Health Personalized Medicine Program
- UF HealthStreet
- VIVO

**UF COLLEGES**

- College of Agricultural and Life Sciences
- College of Dentistry
- College of Design, Construction & Planning
- College of Education
- College of Engineering
- College of Health & Human Performance

5/25/17
• College of Journalism and Communications
• College of Liberal Arts & Sciences
• College of Medicine
• College of Nursing
• College of Pharmacy
• College of Public Health & Health Professions
• College of the Arts
• College of Veterinary Medicine
• Levin College of Law
• Warrington College of Business Administration

OTHER FACILITIES AND RESOURCES AFFILIATED WITH CTSI

• Animal Care Services
• Biobehavioral Core
• Bureau of Economic and Business Research
• Cardiovascular Cell Therapy Center
• Cell & Tissue Analysis Core
• Center for Health Equity and Quality Research
• Center for Movement Disorders and Neurorestoration
• Center for Precollegiate Education and Training
• Center for Safety, Simulation & Advanced Learning Technologies
• Center for Translational Research in Neurodegenerative Disease
• Child Health Research Institute
• Click Commerce
• Dental Clinical Research Unit
• Department of Biostatistics
• Department of Epidemiology
• Department of Health Outcomes and Policy
• Department of Pediatrics
• Diabetes Institute
• Electron Microscopy Core
• Emerging Pathogens Institute
• Florida Innovation Hub
• Florida Neonatal Neurologic Network
• Harrell Medical Education Building
• HCV-TARGET
• Health Science Center
• Health Science Center Library
• Research Computing
• Human Applications Laboratory Manufacturing Facility
• Informatics Institute
• Institute for Child Health Policy
• Institute of Food and Agricultural Sciences
• Institute on Aging
• Institutional Review Boards
• Interdisciplinary Center for Biotechnology Research (ICBR)
• Interdisciplinary Program in Biomedical Sciences
• Jacksonville Health Equity Research Organization
Established in 2008 and headquartered in a dedicated LEED-platinum facility that opened in 2013, the University of Florida Clinical and Translational Science Institute (CTSI) serves as a catalytic hub connecting resources, people and ideas across UF’s 16 colleges, the state and the national Clinical and Translational Science Awards (CTSA) consortium. The CTSI’s mission is to improve human health by accelerating the translation of scientific discoveries and the implementation of evidence-based best practices for the diagnosis, treatment, prevention and cure of human disease. The CTSI is geared to amplify the capabilities of individual and team investigators, and to help them more effectively and more quickly carry out clinical and translational research. The CTSI performs three central functions: 1) transforms and continuously improves the research environment by developing new capabilities for research and translation to practice; 2) delivers high-quality and efficient services and resources for translational research; and 3) cultivates a strong translational workforce. The CTSI and its programs are supported by multiple grants, most notably a CTSA from the National Center for Advancing Translational Sciences of the NIH, and by significant institutional support from UF. In 2013, the CTSI led creation of the OneFlorida Clinical Research Consortium in collaboration with Florida State University, the University of Miami CTSA hub and other stakeholders to extend the impact and reach of translational science throughout the nation’s third largest state. The CTSI serves as the coordinating center for OneFlorida, which bridges two national networks: the NIH-funded CTSA Trial Innovation Network and the PCORI-funded National Patient-Centered Clinical Research Network. The facilities, resources and services described below are available through the UF CTSI. More information is available at www.ctsi.ufl.edu.

CTSA Accrual to Clinical Trials (ACT) Network. The UF CTSI is one of 13 CTSA hubs that launched the CTSA Accrual to Clinical Trials project in 2014 (www.act-network.org) to create a federated network to enable multi-site cohort exploration and recruitment using CTSA integrated data repositories, electronic health record systems and i2b2/SHRINE technologies. As of May 2017, the ACT Network includes 21 sites across the CTSA consortium, with additional sites joining every six months. The goal of the ACT Network is to significantly increase participant accrual to the nation’s highest priority clinical trials. To achieve this goal, ACT will leverage
the widespread implementation of the electronic health record (EHR) and the extensive informatics and regulatory expertise within the CTSA network. Early work will enable cohort exploration across the federated network. This will build upon the accomplishments of individual CTSAs and networks of CTSAs that have created informatics infrastructure, policies, and procedures that have successfully demonstrated the capacity to conduct EHR-driven cohort exploration. The ACT Network is led by the University of Pittsburgh CTSI.

CTSA Trial Innovation Network. The UF CTSI has a hub liaison team that provides facilitative support to UF investigators leading or participating in multisite studies who wish to access the services and resources of the CTSA Trial Innovation Network (https://trialinnovationnetwork.org/), which launched in October 2016. The Trial Innovation Network is a new collaborative initiative within the national CTSA program and is composed of three key organizational partners – institutional CTSA hubs, Trial Innovation Centers (at Duke-Vanderbilt, Utah, Johns Hopkins-Tufts universities), and a Recruitment Innovation Center (at Vanderbilt University). The Trial Innovation Network will feature a single IRB system, master contracting agreements, quality by design approaches, and a focus on evidence-based strategies to recruitment and patient engagement. The goal of the Trial Innovation Network is to not only execute trials better, faster, and more cost-efficiently but, importantly, to be a national laboratory to study, understand and innovate the process of conducting clinical trials.

CTSI Biomedical Informatics Program. The Biomedical Informatics Program at the University of Florida has an academic home in the Division of Biomedical Informatics in the Department of Health Outcomes and Policy in the College of Medicine. It has a programmatic home in the Clinical and Translational Science Institute. There are five faculty, two postdoctoral fellows, and eleven staff. The faculty have office space with the Clinical and Translational Science Institute in the Clinical and Translational Research Building. The faculty have research programs and expertise in health, biomedical ontology/terminology/semantics, social network analysis, social media, knowledge representation, data mining/big data, entity resolution, data security and privacy, decision analysis, ontology-based software development, and patient-reported outcomes software development and implementation. The CTSI Biomedical Informatics Program at UF works to enhance and extend informatics infrastructure for transforming and translating discovery; create and manage the Center for Advanced Data Capabilities; establish biomedical informatics as an academic discipline at UF; and further national collaboration to accelerate the multidirectional flow of informatics ideas, best practices, technologies, and standards. The Biomedical Informatics Program is supported by both the CTSI and the Department of Health Outcomes and Policy, which hosts and supports the program’s biomedical informatics graduate certificate, master’s and Ph.D. programs. Program faculty and staff have access to campus computing resources such as GatorVault, a private cloud for research data storage, and HiPerGator, Florida’s most powerful high performance computer. Clinical and Translational Science Informatics and Technology (CTS-IT), a CTSI informatics support unit with 21 employees and 3,645 square feet of office space, is part of the Biomedical Informatics Program. CTS-IT staff offer design and development of custom software applications for research including RED-I, UF’s software application to move data from UF’s Integrated Data Repository, and other institutions’ EHR data, to REDCap. CTS-IT also offers informatics consults, research system hosting in accordance with UF’s strategic plan for biomedical informatics, data workflow development and management of research software.

Biotility (Center of Excellence for Regenerative Health Biotechnology). Established in 2003 with launch of operations in 2006, Biotility (http://biotility.research.ufl.edu) was created as a state resource to expand and improve workforce talent for Florida’s bioscience industry. Efforts are directed to three key areas: 1) Direct industry training and certificate short-courses; 2) Secondary and postsecondary program development and support, including teacher training and certification; and 3) Development and administration of the industry-recognized Biotechnician Assistant Credentialing Exam (BACE) within Florida and nationally.

Biotility functions at the intersection of academia and industry and is proximal to the cluster of biotechnology companies in the Gainesville/Alachua area. The education and training center includes classrooms, conference areas, a cleanroom simulator, and wet labs outfitted with state-of-the-art equipment. Proximity to Florida’s northeast bio-industry cluster facilitates student internships, incumbent employee training, pre-employment training, and participation of industry leaders in course development.
Certificate short courses that integrate industry concepts and skills into traditional biomedical research are offered to undergraduate and graduate students, researchers and faculty, and companies throughout the state. Courses are created based on emerging industry needs, with a focus on product and process development, biomanufacturing processes, analytical methods, quality systems, and regulatory compliance.

**CTSI Biostatistics, Epidemiology and Research Design (BERD) Program.** The BERD program provides a central location for investigators seeking quantitative and qualitative research design and analysis support through the CTSI. BERD links investigators with multidisciplinary faculty members and experts in various methodological techniques including biostatistics, epidemiology, qualitative data techniques and measurement and evaluation in health-related research. This program also assists students and young investigators in accessing basic and advanced graduate classes in research design, data acquisition and management and data analysis that are applicable across the entire spectrum of clinical and translational research. BERD serves as an early point of contact for investigators to facilitate their research, whether standalone or multidisciplinary, with high quality research design and analysis assistance for their grant applications. Additionally, BERD acts as a liaison to ensure that the educational needs in both quantitative and qualitative methods are individually tailored to students’ and young investigators’ needs while developing and adopting new methodology as needed for specific clinical and translational research. Study design, database design, and data analysis services are available to Investigators through BERD. Investigators can also take advantage of Design Studios and office hours offered by BERD faculty.

**Center for Cellular Reprogramming.** The Center for Cellular Reprogramming provides services and training for induced Pluripotent Stem Cell derivation and related cell reprogramming technologies. The center occupies approximately 1,600 square feet for all general laboratory activities, including storage and experiments. Major equipment includes four CO2 incubators, three tissue culture hoods, three liquid nitrogen cell storage tanks, refrigerated high-speed centrifuges, a BioTek Synergy 2 plate reader, a shaking incubator, a spectrophotometer, two thermocyclers (for PCR), a real-time PCR machine, an inverted fluorescent microscope with a digital camera system, an upright microscope, a surgical microscope, and all equipment needed for electrophoresis.

**Clinical and Translational Research Building (CTRB).** The University of Florida Clinical and Translational Research Building serves as the headquarters for clinical and translational science at UF and in the state. The building houses patient-oriented research venues for the Institute on Aging and the Clinical and Translational Science Institute. The 120,000-square-foot facility features two main wings. Construction cost approximately $45 million, with $15 million coming from an NIH ARRA grant awarded to the Institute on Aging. Units in the building include: Clinical and Translational Science Institute, Institute on Aging, Department of Biostatistics, Department of Epidemiology, Department of Health Outcomes and Policy.

**Consent2Share.** The Consent2Share initiative offers UF Health patients an opportunity to allow UF researchers to contact them about research studies for which they might be eligible based on information in their electronic health record. As of May 2017, more than 34,000 patients have consented to participate through UF Health’s internal medicine and medical specialties, family medicine, cardiovascular and pediatric practices, with ongoing expansion underway. Consent2Share participation is recorded in the electronic health record system and is part of the HIPAA-compliant limited data set made available to researchers via the UF Health Integrated Data Repository’s i2b2 query tool. The UF Health Office of the Chief Data Officer oversees the IDR and works closely with the UF IRB to manage the IDR’s honest broker process and to oversee quality assurance for the Consent2Share initiative.

**CTSI Clinical Research Center.** The CTSI’s Clinical Research Center (CRC) occupies 14K square feet on the first floor of the Clinical and Translational Research Building (CTRB). The dedicated research space includes 14 exam rooms, a large infusion suite, two procedure rooms, and a large exercise physiology room. The unit also includes administrative offices and is equipped for complex exams such as bronchoscopy, liver biopsies, and gene therapy. Other available equipment includes pulmonary function equipment, dental chair, Bod Pod, Body Box, Basal Metabolic cart, Ultrasound machine, EKG machine, and blood pressure monitors. Located within the CRC are an investigational pharmacy, a conference room, work areas for nursing and study staff,
and a sample processing lab which houses refrigerators, centrifuges and -80° freezers. The CRC provides a highly trained research staff including registered nurses, a medical technologist, a research dietitian, and administrative staff. All staff is trained in Good Clinical Practice. Services include administration of investigational medications, specimen collection including pharmacokinetic sampling, monitoring of vital signs, administration of glucose tolerance tests, euglycemic clamp procedures, diet recalls, specimen processing, and exercise testing. CRC also provides study coordinator and internal study monitoring services.

**CTSI Communication and Dissemination Program.** A collaboration with the STEM Translational Communication Center (STCC) in the UF College of Journalism and Communications, the CTSI Communication and Dissemination Program unites UF’s communications professionals, communication researchers and translational scientists to expand the integration of communication practice, science and pedagogy in translational research. The program incubates cutting-edge, interdisciplinary health communication research; catalyzes work at the intersection of communication research and practice in support of the CTSI Recruitment Center and other programs; expands access to CJC graduate courses, lectures and programs to help current and future translational researchers develop core competencies and skills in health and science communication; and offers a consultation service through which research teams can obtain expert guidance on communication or dissemination strategy development, audience analysis and segmentation strategies, templates and best practices, and referrals to related resources and collaborators. The program team includes the CTSI Recruitment Center postdoc and works closely with STCC affiliates, the CTSI’s strategic communications team and the UF Health Communications division. Program faculty and STCC affiliates have direct expertise in the area of patient participation and retention in clinical research and health inequities. The program’s research in this area includes message framing, physician-patient communication, family-patient communication, and community engagement as related to health inequities regarding research-study participation.

**CTSI Biorepository.** The CTSI Biorepository is one of only five CTSI-affiliated biorepositories accredited by the College of American Pathologists. The services provided by the CTSI Biorepository include retrospective and prospective procurement of high quality biospecimens for research (fresh, fresh-frozen, formalin-fixed, paraffin-embedded tissue, DNA, RNA, plasma, serum, buffy coat, etc.); a centralized, secure, and monitored biospecimen storage facility; biospecimen processing services; nucleic acid extraction and quality assessment services; comprehensive clinical trial specimen management services including kit creation, sample receipt/reconciliation, storage and distribution; regulatory assistance, including Institutional Review Board documentation when applying for Biorepository services; and comprehensive pathology services, including diagnosis confirmation by board certified pathologists. The total sample storage capacity is approximately 500K samples stored in nine -80°C and one liquid nitrogen freezers. The current storage inventory exceeds 230K samples including approximately 31K biorepository “library” specimens which are available to researchers and nearly 198K samples collected by investigator-directed research projects including multi-center clinical trials. Examples of large scale clinical trials currently utilizing CTSI Biorepository services include the “Lifestyle Interventions and Independence for Elders Study” (LIFE), the “Hepatitis C Therapeutic Registry and Research Network” Study (HCV-TARGET), the UF’s “Sepsis and Critical Illness Research Center” (P50 grant, Departments of Surgery, Anesthesiology, Medicine, Physical Therapy, Aging and Geriatric Research), and the UF Health/Orlando Health “Joint Oncology Program” (JOP). The CTSI Biorepository also serves as the official UF Health Cancer Center’s biospecimen procurement and storage facility for Cancer Center Members.

**CTSI Office of Clinical Research.** Created in 2017 as part of the UF CTSI, with joint oversight by the UF Health Cancer Center, the Office of Clinical Research will become a one-stop shop for managing clinical studies from start to finish. With support from the UF Office of Research and the UF College of Medicine, the Office of Clinical Research is leading two major initiatives: (1) Implementation of OnCore as an enterprise-level clinical research management system; and (2) reorganization of clinical research resources and administration into a more facilitative model that merges staff and functions from Research Administration and Compliance, CTSI, UF Health, Cancer Center and Office of Research units. In use at the UF Health Cancer Center since 2009, OnCore manages multiple aspects of clinical research, including protocols, participants, billing, data and specimens. Housed under the UF CTSI, the Office of Clinical Research will redesign workflows to leverage the full functionality of OnCore, minimize bottlenecks and streamline processes. In response to recommendations of
the UF Human Subject Research Taskforce convened in the fall of 2015, the Office of Clinical Research will provide support to clinical research teams campuswide, with major functions of the office including OnCore user support, system maintenance, analytics and reporting; education and training, including OnCore utilization and regulatory and compliance processes; study finance, including sponsor invoicing and collections, contract negotiations and budgets, and OnCore protocol calendars and billing grids; and clinical research support and facilitation through the CTSI Service Center, which provides Clinical Research Center, recruitment, navigation, regulatory, quality management, biostatistics and investigational pharmacy services.

CTSI Service Center. The CTSI Service Center facilitates rapid activation of research for investigators performing translational research across the UF campus and provides a range of research services and resources, including biostatistical and regulatory support, data support through the Clinical and Translational Science-IT and Research Electronic Data Capture (REDCap) teams, recruitment and retention support through the CTSI Recruitment Center, and facilities to conduct research through the UF Clinical Research Center. The CTSI Service Center also provides Regulatory Knowledge and Support (RKS) for investigators, including access to a Research Subject Advocate, informed consent expertise, IND and IDE assistance, ClinicalTrials.gov assistance, ethics consults, data safety monitoring assistance, and Standard Operating Procedure development. The RKS team can also provide Good Clinical Practice, Good Laboratory Practice and Good Manufacturing Practice training. The CTSI Service Center’s Research Navigators advise research teams on available resources and help them navigate research-related processes. Navigators are well versed in IRB application preparation, protocol development, Good Clinical Practice guidelines, and NIH research rules and standards for the design, conduct, performance, monitoring, data collection, management, analysis, and reporting of clinical trials. Through consultation, Navigators help investigators assemble research teams to conduct studies, provide budget reviews, and oversee study management. The CTSI Service Center also links investigators to other CTSI resources and CTSI-affiliated core facilities such as the Human Imaging Core and the Center for Safety, Simulation and Advanced Learning Technologies. The CTSI Service Center works closely with investigators, the UF Institutional Review Boards, the CTSI Office of Clinical Research, and numerous service providers across the CTSI.

UF HealthStreet. HealthStreet Gainesville is a concept and a site for community-engaged research at UF. HealthStreet is a one-stop portal of entry for linking and navigating underrepresented populations to social services (food pantry, housing, criminal justice, etc.), medical and psychiatric services (MDs, nurse practitioners, drug treatment, blood pressure, glucose screenings, etc.), and research opportunities. It is located in southwest Gainesville and includes about 10K square feet of space for faculty, staff, students, and volunteers. The HealthStreet suite also includes a lobby, a community center, a conference room, multiple meeting spaces, several interview rooms, two kitchen facilities and handicap accessible restrooms and shower facilities. HealthStreet relies on Community Health Workers (CHWs) for engagement and owns three seven-passenger vans that are used by Community Health Workers to drive to outreach locations and to provide transportation to community members. CHWs operating in Jacksonville as well as in the Miami area and several rural counties across Florida complement the Gainesville outreach efforts. Additionally, HealthStreet leads a national network of 18+ CTSA sites in conducting events called Our Community, Our Health. These monthly meetings promote bi-directional communication between researchers and the communities they serve, addressing relevant health topics and disseminating research findings. The events are streamed nationwide and are interactive using text messaging and social media.

CTSI Human Imaging Core. The University of Florida CTSI Human Imaging Core provides infrastructure and support to facilitate research and educational activities using Magnetic Resonance Imaging and Spectroscopy (MRI/S) technology, with particular emphasis on translational MRI/S research in humans. The Core is located on the ground floor of McKnight Brain Institute (MBI), Rooms LG100, and LG109 – LG114. The centerpieces of the Core are two research-dedicated 3.0 Tesla whole-body human MRI/S scanners, including a state-of-the-art Siemens Prisma scanner (installed in December 2016), and a Philips Achieva scanner. The Siemens Prisma scanner is equipped with simultaneous multi-slice (SMS) technology for functional MRI (fMRI) and diffusion imaging (dMRI) as outlined in the Human Connectome Project, as well as Magnetic Resonance Elastography (MRE) and other advanced MR technology. Whole-body scanning capabilities enable correlative measurements in obesity, diabetes, osteoarthritis, aging and dystrophy studies. Both scanners are equipped
with a series of coils and pulse sequence packages for advanced MR imaging and spectroscopy research of human neuro, body, and musculoskeletal (MSK) system, e.g., a 64-channel head/neck coil on the Siemens scanner, a 32-channel head coil and a 16-channel neuro-vascular coil on the Philips scanner, respectively, for neuroimaging applications, and phased array coils for other organs (e.g., heart, liver, and MSK). Both scanners are equipped with devices for presenting video and audio signals including functional MRI task paradigms to the subjects during scanning, and for recording the subject’s button responses.

The Core is a resource, on a fee-for-service basis, open to UF and UF Health researchers, as well as researchers from outside UF through collaborations with UF and UF Health researchers including those in the Core. In conjunction with three higher magnetic field magnets (Agilent 4.7T, Agilent 11.1T, Bruker 17.6T) for imaging animals and/or tissue samples in the Advanced Magnetic Resonance Imaging and Spectroscopy (AMRIS) Facility, which is housed on the same floor in the MBI and is the biological arm of the federally-funded National High Magnetic Field Laboratory, the CTSI Human Imaging Core is a state-of-the-art facility for cutting-edge translational MRI/S research in human health and diseases.

The CTSI Human Imaging Core capabilities include:

- Structural, functional, and metabolic MRI
- Methods and protocols for MR data acquisition
- Image quality assurance and quality control
- MR data acquisition and transfer support
- Image archive and access
- Teaching investigators MR data acquisition and analysis techniques
- Assisting researchers in designing experimental protocols
- Development of advanced MR imaging and spectroscopy methodology

**CTSI Implementation Science Program.** Created in 2013, the CTSI Implementation Science Program strengthens learning health system capacity at UF Health and advances implementation science across the state in collaboration with the OneFlorida Clinical Research Consortium and other CTSI partners. Implementation science focuses on the use of strategies to adopt and integrate evidence-based health interventions that change practice patterns and improve health. Implementation science emphasizes outcomes that consumers, practitioners, health systems, and communities value and thus takes a participant- and community-centered approach. The program offers Implementation Science Roundtables for investigators who wish to incorporate implementation science into their research, and it developed a Citizen Scientist Program to engage patients and community members as collaborators throughout the research process. Adult and adolescent Citizen Scientists offer a lay perspective in proposal review, patient recruitment strategies, and in other areas where stakeholder engagement may be needed. The program developed an online educational curriculum to help train new Citizen Scientists who join the group at UF or elsewhere. The curriculum is broken out into seven topical modules, each of which contains several videos that are accompanied by resources to aid learning. Each didactic presentation is followed by a brief assessment to gauge comprehension of the topic presented. These materials are offered as an Open Educational Resource.

**CTSI Mentor Academy.** The CTSI Mentor Academy represents an integral component of the Translational Workforce Development Program and also receives support from UF Health, the UF College of Medicine, and the UF College of Dentistry. The Mentor Academy was launched in June 2013 to foster the development of the next generation of clinical and translational scientists by promoting a culture of support for mentoring and by providing training in optimizing mentoring relationships for mentors and mentees at all levels of career development. Roger Fillingim, PhD, leads the Academy with support from the UF Health Office of Biomedical Research Career Development. The Academy offers a Master Mentor program, an eight-session curriculum of biweekly meetings emphasizing key topics in mentoring, including: characteristics of effective mentoring relationships, individual development plans, research ethics and professionalism in mentoring, communication skills, fostering independence and promoting professional development, and articulating a mentoring philosophy. The program is based on a curriculum recently shown to produce significant improvements in mentor skills and behaviors in a multi-site randomized-controlled trial (Pfund, et al, 2013 Clin Transl Sci 6: 26-33; Pfund, et al, 2014 Acad Med 89:774-82). The Mentor Academy employs an active 5/25/17
learning model, which encourages participant engagement and experiential learning. This program is
designed to help faculty develop and implement best practices in mentoring. To date, 47 faculty have
completed the Master Mentor Program.

OneFlorida Clinical Research Consortium. The OneFlorida Clinical Research Consortium is a statewide
partnership among the University of Florida, University of Miami, Florida State University, health care systems,
health plans, providers and patients throughout the nation’s third largest state. OneFlorida aims to unite its
stakeholders to address some of the nation’s biggest health challenges and serve as a resource for the state in
improving health, health care and health policy. To support research aimed at addressing these challenges,
the OneFlorida Data Trust and OneFlorida Practice-based Research Network allow investigators to identify
cohorts and conduct observational research using aggregate and de-identified patient-level health data from
diverse partners across the state; identify and intervene with patients at the point-of-care; and conduct
pragmatic clinical trials and other interventional studies, including implementation science and comparative
effectiveness research, in eligible, research-ready clinics. The OneFlorida coordinating center is housed at the
University of Florida Clinical and Translational Science Institute and facilitates streamlined support for network-
wide research through a centralized IRB process, integrated programs, budgeting, contracting and stakeholder
engagement, and a front-door process to assist investigators. The strength of the consortium is in the diversity
of its patients, partners and clinical settings. Together, OneFlorida partners provide health care to more than
40 percent of Floridians and encompass 22 hospitals, 4,100 physician providers, 1,240 practices and clinics,
and more than 10 million patients. OneFlorida partners include private, public and academic health care
systems and hospitals. The consortium actively participates in two national networks dedicated to translational
research: the National Institutes of Health Clinical and Translational Science Awards Program, with CTSA hubs
at the University of Florida and the University of Miami, and the Patient-Centered Outcomes Research
Institute’s PCORnet, as one of 13 clinical data networks nationwide.

CTSI Research Coordinator Advisory Council. The UF CTSI Clinical Research Coordinators (CRC)
Advisory Council’s goal is to serve as an ongoing forum for networking and resource sharing within the clinical
research community here at UF. The group is led by a Council comprised of CRC representatives from a
variety of departments and represents a diverse group of clinical research professionals who promote cross-
functional collaboration for research initiatives at UF. The goal is to help CRCs achieve success at UF by being
champions for clinical research and facilitate collaborative discussion forums for the UF CRC Community to
exchange information. Council members act as advocates for professional development opportunities for the
clinical research coordinator community; offer insight to senior leadership about workflows in order to help
strategize training plans for all CRCs; provide a connection between CRCs and functional units involved with
clinical research; and identify and disseminate best practice information within the CRC community.

ResearchMatch. ResearchMatch.org is a national research volunteer registry that brings together
researchers and willing volunteers who want to get involved in research studies. This national registry,
developed by institutions affiliated with the Clinical and Translational Science Awards (CTSA) program,
provides a secure, web-based approach to address a key barrier to advancing research: finding research
participants. The goal of ResearchMatch is to better connect volunteers with potential study opportunities. As
of May 2017, ResearchMatch.org has registered more than 114,000 volunteers nationwide.

CTSI Scientific Advisory Committee. The Scientific Advisory Committee (SAC) provides a scientific review
for protocols submitted to the CTSI for support. The SAC meets monthly and is composed of experts from a
cross-section of the basic and clinical sciences from the Colleges of Medicine, Pharmacy, Dentistry,
Engineering, Veterinary Medicine, and Agriculture and Life Sciences. Reviews provided by SAC aid in
determining CTSI Pilot RFA funding and utilization of the resources of the Clinical Research Center.

Sentinel Network. The Sentinel Network is a collaborative effort across two community-focused national
organizations and six CTSA sites, including Washington University in St. Louis, University of California-Davis,
University of Michigan, Albert Einstein College of Medicine, University of Rochester, and UF. The Sentinel
Network develops procedures to increase community participation in research, build the capacity of
Community Health Workers to expand their role in research by increasing the rigor of health evaluation metrics
in the field, and establish a sustainable network, the Sentinel Network, to provide ongoing, real-time assessments of top health and neighborhood needs, concerns and research perceptions. The data can then be shared with researchers and local communities to increase the representativeness and relevance of research by facilitating community participation. In addition to continuing to collect health data, the Sentinel Network includes the provision of medical, social service, and research referrals appropriate to the assessed health needs and concerns of community members.

**CTSI Network Science Program.** Network Science and Social Network Analysis are used at the CTSI to map, visualize and analyze patterns of collaborations among UF scientists over time. These include publication co-authorship, co-participation to grant proposals and awards, co-membership in graduate committees, and proximity of office spaces. The Network Science Program gathers investigators from the UF Bureau of Economic and Business Research, the Department of Sociology and Criminology & Law, and the Department of Anthropology. Network methods have been used in the program to identify emerging scientific communities and research fields at UF, design innovative interventions for matching potential collaborators, inform CTSI pilot programs, and evaluate the role of the CTSI on the growth of interdisciplinary research at UF. The Network Science Program is available to provide network methods consults to other UF Investigators.

**CTSI Southeast Center for Integrated Metabolomics.** The Southeast Center for Integrated Metabolomics (SECIM) offers services in mass spectrometry (MS) and nuclear magnetic resonance (NMR)-based metabolomics and is developing a fully integrated platform for analytical measurements and statistical analysis. SECIM offers untargeted global metabolomics using NMR and liquid chromatography–mass spectrometry (LC-MS) and targeted assays using LC-MS on amino acids, organic acids, acyl-carnitines, acyl-CoAs, and NAD metabolites through partners at Sanford Burnham Prebys Medical Discovery Institute in Orlando. Biomarkers are identified by state-of-the-art NMR and MS. SECIM users are able to conduct isotopic ratio outlier analysis (IROA) experiments to measure global metabolomic changes in response to external perturbations or mutations using LC-MS through our partnership with IROA Technologies. SECIM technical cores include: Mass Spectrometry Services for global and targeted metabolomics (Garrett and Gardell, Co-PIs); Nuclear Magnetic Resonance for global metabolomics and biomarker identification (Merritt, PI); Advanced Mass Spectrometry for biomarker identification, imaging mass spectrometry and IROA (Yost, PI); and Bioinformatics for SECIM pipeline development and analysis (McIntyre, PI). Additionally, the Promotion & Outreach Core unifies the technical cores' activity by expanding the user base and providing education and training in SECIM capabilities.

**CTSI Recruitment Center.** The CTSI Recruitment Center was created to optimize recruitment and retention of study participants through consultations and services that help UF research teams address their study recruitment needs. The Recruitment Center supports several resources to help facilitate cohort identification and the recruitment of research participants, including access to electronic health record data for cohort discovery, consent for contact to participate in research and participant-centered engagement methods to reach clinical, community and special populations. In collaboration with the four UF Institutional Review Boards (IRBs), UF Health and UF research teams, the CTSI maintains and promotes UF StudyConnect as a central resource for listing UF clinical research studies seeking volunteers (>270 studies listed as of May 2017). Additional resources within the Recruitment Center include the UF Health Integrated Data Repository and i2b2 cohort discovery tool (>907,000 patients as of May 2017), Consent2Share (>34,000 consented as of May 2017), HealthStreet (>8,800 members as of May 2017), ResearchMatch (>790 volunteers within 50 miles as of May 2017), and Communication and Dissemination.

**CTSI REDCap** (Research Electronic Data Capture) is a secure, web-based application designed to support traditional case report form data capture for research studies. It is provided at no cost for UF investigators. For those with funding, fee-based configuration services are also available to jump-start a given project. REDCap was originally developed at Vanderbilt University. The University of Florida and more than 2,000 other partners now comprise the REDCap Consortium that continues to develop and support the software. Read more about REDCap’s features at the consortium website at [http://project-redcap.org/](http://project-redcap.org/). Using REDCap’s streamlined process for rapidly developing databases and/or surveys, users create a project, define and organize the data they wish to capture, build the related forms/surveys and associate them with study events.
Other features include automated export procedures for seamless data downloads to Excel and common statistical packages (SPSS, SAS, Stata, R), as well as a built-in project calendar, a scheduling module, ad hoc reporting tools, and advanced features, such as branching logic, auto-validation, file uploading, survey stop actions, and calculated fields.

**CTSI Translational Workforce Development Program.** The CTSI’s Translational Workforce Development core function is led by Dr. Thomas A. Pearson, CTSA KL2 Principal Investigator and Executive Vice President for Research and Education at UF Health. The principal TWD aims are to: serve as the primary coordinator, provider and champion of education and training in translational science at the UF Health Science Center; provide onsite and online knowledge, training, resources, and networking to community collaborators in Florida; contribute to the CTSI network through creation of externships, mentor networks and sharing of education and training resources; and evaluate the creation of leaders, mastery of core competencies, and completion of learning objectives. The TWD’s program leadership, infrastructure, program models and expertise have positioned it as a university-wide hub that catalyzes new opportunities in translational science graduate education and training. The participation of over 180 fellows and junior faculty in the CTSI’s “K College” is an example along with the significant increase in the numbers of K and T32 awards at UF. In addition, TWD integrated Biotility’s Bioscience Industry Workforce Program as part of the TWD structure, including a Biotechnician Assistant Credentialing Exam approved in two states: Florida (2012) and Arizona (2016).

**CTSI Training and Research Academy for Clinical and Translational Science (TRACTS).** TRACTS is a two-year training program for early career faculty at the University of Florida who have an interest in pursuing clinical/ translational research as a major component of their careers. TRACTS consists of three components: 1) Didactics (Intro to CTR, Quantitative Literacy), 2) Mentor identification and 3) Individual and group career support aimed at balancing the demands of clinical and academic pursuits. The goal of TRACTS is to prepare clinicians for roles in health sciences, including further research career development. The TRACTS model represents a significant change to a long-standing program formerly known as the Advanced Postgraduate Program in Clinical Investigation (APPCI), which was originally supported through the NIH Clinical Research Curriculum Award (K30) program from 1999-2009. Under the CTSI since 2009, the program was refocused, reconfigured and renamed in 2014 as TRACTS targeted specifically to research-oriented junior faculty with high potential for a productive clinical/ translational research career.

**CTSI TL1 Predoctoral Training Program.** The TL1 Program provides graduate students with skills to develop a career in multidisciplinary clinical and translational research. The program uses a team-science approach and provides mentoring and didactic training for predoctoral students performing clinical and/or translational research in health-related fields at UF. The Clinical & Translational Science field of study is available to UF PhD students as an interdisciplinary concentration (“co-major”) and as a graduate certificate.

**UF Health Integrated Data Repository.** The UF Health Integrated Data Repository (IDR) was created to serve as a common source of information to be used by clinicians, executives, researchers, and educators. The IDR enables new research discoveries as well as patient care quality and safety improvements through a continuous cycle of information flow between the clinical enterprise and research community. The IDR is a collection of disparate data organized in a manner that lends itself to understanding the relationships between data elements to answer questions. The UF Health IDR currently consists of a clinical data warehouse that aggregates data from the various clinical and administrative information systems, including the EpicCare electronic health record. The clinical data warehouse contains demographics, inpatient and outpatient clinical encounter data, diagnoses, procedures, lab results, medications, select nursing assessments, co-morbidity measures, and select perioperative anesthesia information system data. The IDR’s clinical data warehouse is HIPAA-compliant and can be accessed using i2b2, a web-based query and analysis tool. IDR staff offer cohort discovery and honest broker services to Investigators.

**UF Health Personalized Medicine Program (PMP).** The UF Health PMP, part of the UF Clinical and Translational Science Institute (CTSI), partners with health professionals and patients at UF Health and across the state to develop, implement, study, and refine methods that allow genetic information to be used routinely
as part of patient care. The program’s initial focus is on pharmacogenetics, given the significant research contribution of UF faculty in this area. The PMP is led by faculty from the UF College of Pharmacy and brings together a large and multidisciplinary team that provides complementary clinical, informatics, laboratory medicine, and administrative expertise required to implement genomic medicine. The program has launched six drug-gene implementations and performed clinical pharmacogenetic tests for more than 3,000 patients. The Personalized Medicine Program is currently focused on expanding evidence-based genomic medicine to other inpatient and outpatient settings throughout Florida, leveraging existing OneFlorida partnerships. The PMP has been funded by NIH grants U01 HG007269 (as part of the NIH IGNITE network), U01 GM074492 and U01 HL105198 (both part of the NIH Pharmacogenomics Research Network), UL1 TR000064 and UL1 TR001427 (Clinical and Translational Science Award), and by substantial institutional support from the University of Florida and its Clinical and Translational Science Institute.

VIVO. VIVO is a scholarly networking and discovery tool that enables understanding and collaboration among all disciplines. VIVO represents scholarship using the VIVO-ISF ontology and its data is publicly available in Resource Description Framework (RDF), a World Wide Web Consortium (W3C) standard. Thirty-six CTSA institutions provide data using the VIVO data standard. In 2012, the CTSA network recommended all CTSA to provide data regarding their scholarship using the VIVO data standard. At UF, VIVO is automated to collect person contact and employment data from Human Resource Services, grant data from the Division of Sponsored Programs, papers and other publications from BibTeX exports from Thomson Reuters Web of Science, and teaching data from the Office of the University Registrar. Data are updated weekly. Individuals may sign on to VIVO using their GatorLink username and password to edit their profile information. The SPARQL query language is used to extract data for ad hoc reports, standardize website content and provide data for CTSI operations, including evaluation, governance, network science and training programs. VIVO provides a comprehensive view of the university and its scholarship. As of April 2017, VIVO at UF contains approximately 14,513 organizations, 250,504 people, 103,611 publications, 24,296 grants, 8,051 courses, and 87,268 course sections. Originating at Cornell, VIVO was further developed as the result of an NIH ARRA award (2009-2011) to UF and a consortium of six schools (Cornell, Weill Cornell Medical College, Indiana University, Washington University at St. Louis, Scripps Research Institute, and Ponce Medical School in Puerto Rico). VIVO is an open-source, sponsor-supported software project managed by Duraspace, a nonprofit corporation dedicated to the representation and presentation of the academic record. VIVO is a network in which more than 140 institutions and agencies in more than 25 countries are implementing VIVO or producing VIVO-compatible data, including the USDA and the American Psychological Association.

UF COLLEGES

College of Agricultural and Life Sciences The College of Agricultural and Life Sciences (CALS) administers the academic degree programs of the UF Institute of Food and Agricultural Sciences (UF/IFAS). With 23 undergraduate majors, more than 50 areas of specialization, and 23 graduate majors, CALS is an educational leader in the areas of food, agriculture, natural resources, and life sciences. The mission of CALS is to deliver unsurpassed educational programs that prepare students to address the world's critical challenges related to agriculture, food systems, human wellbeing, natural resources and sustainable communities. CALS is one of the largest colleges of its kind in the nation, serving nearly 5,000 students in programs ranging from horticultural sciences to geomatics and resource economics. CALS has 597 state-funded faculty and 313 county-funded faculty in extension offices throughout Florida.

College of the Arts The UF College of the Arts, previously known as the College of Fine Arts, is one of the 16 colleges and more than 150 research centers and institutes at UF. The current College of the Arts evolved from the School of Architecture, which was established in 1925. In 1975 the previous College of Architecture and Fine Arts was divided into two colleges, the College of Architecture and the College of Fine Arts. Many programs, however, have flourished since the University's earliest days. The UF Band Program got its start in 1913, and the Men's Glee Club was founded in 1907. The painting and drawing programs began in 1929 and became the basis for the School of Art and Art History. In May 2014, the college changed its name to the College of the Arts. In 2015 the college will celebrate its 40th anniversary.
The College of the Arts offers baccalaureate, master’s and PhD degree programs in its three schools, the School of Art and Art History, School of Music, and School of Theatre and Dance. The college is home to the Center for Arts in Medicine, Center for World Arts, Digital Worlds Institute, University Galleries, and the college program of the New World School of the Arts in Miami. More than 100 faculty members and approximately 1,200 students work together daily to engage, inspire, and create. The college achieves the university’s mission by training professionals and educating students as artists and scholars, while developing their critical thinking and inspiring a culture of curiosity and imagination. The college hosts more than 300 performances, exhibitions, and events each year. Faculty and students also exhibit and perform at other local, national, and international venues.

College of the Arts faculty members are active and productive researchers, scholars, and creative artists who engage in basic and applied research within the arts and across disciplines. Faculty research focuses on and occurs within the specific arts discipline and across sub-disciplines within their respective fields. Interdisciplinary and multidisciplinary research brings arts researchers together with colleagues in other fields to create new areas of study that bring the complementary strengths of the arts to those fields. In each of these processes, both traditional and unique arts methodologies inform and enhance research across disciplines, and the results of this work contribute significantly to strengthening the human condition and improving quality of life. Faculty researchers disseminate their work in multiple ways — books, articles, conference presentations, recitals, exhibitions and productions — both in print and electronically. This combination of traditional and unique arts delivery systems is a dynamic component of arts research, allowing all individuals multiple access points to the results of research activity in the college.

College of Dentistry  The College of Dentistry includes nine academic departments and 120 faculty, who earned more than $15M in external grants and contracts for research during the last fiscal year. The 173,179 square foot dental tower includes dental clinics, teaching facilities, offices, laboratories, and classrooms. Roughly 35K square feet of the dental tower is dedicated to research, with much of this space classified as wet laboratory space. More than 90 percent of preclinical instruction is delivered in the simulation laboratory with 98 patient simulators. The college has 269 dental operatory chairs at its Gainesville location and more than 52,452 square feet dedicated to clinical operations. DMD clinical instruction also occurs in the nine-chair Oral & Maxillofacial Surgery Center, in the Pediatric Dental Center with six DMD student chairs, in the Endodontic Center, with six DMD student chairs, and in the Graduate Orthodontics Center where there are 15 DMD student chairs available. College- owned clinics in Naples, Hialeah and St. Petersburg have 20, 23, and 17 chairs, respectively. The college is home to the UF Health Periodontology and Prosthodontics Dental Center. This center, which houses 25 dental chairs and state-of-the-art surgical suites, represents the final step in consolidating all specialty clinics on the first floor, facilitating ease of patient access, and streamlining interdisciplinary care between dental specialties. In addition, students participate in clinical rotations in the department clinics of Oral & Maxillofacial Surgery, Orthodontics, and Pediatric Dentistry.

The College of Dentistry’s Dental Clinical Research Unit performs state-of-the-art clinical research in the field of oral care as well as collaborative research in all other areas of health care. The Dental Clinical Research Unit also assists with in vitro studies of antimicrobial compounds and susceptibility studies and test diagnostic methods and procedures.

College of Design, Construction & Planning  The College of Design, Construction & Planning is engaged in a wide array of applied research. Focus areas include sustainable design and construction, including green infrastructure; evolving design and construction technologies; health and the built environment; transportation planning; planning for a balance in human and natural systems; and the creation, application, and dissemination of geospatial information.

Much of the college’s research is conducted under the umbrella of 10 established research centers, the oldest of which is the Geoplan Center. Geoplan works with the Florida Department of Transportation (FDOT) to help streamline long-range transportation planning. Using an online tool for geospatial evaluation, Geoplan staff are able to evaluate alternative transportation corridors for environmental, fiscal, and cultural factors that would
render an alternative unfeasible. For example, Geoplan works with FDOT to examine the potential impacts on the state's highway infrastructure from sea level rise. Geoplan’s Florida Geographic Data Library is a comprehensive collection of Florida geospatial data that is used by state agencies, academic institutions, and private consultants.

Other centers in the College of Design, Construction & Planning with robust project portfolios include the Center for Landscape Conservation, which focuses on ecological networks and reserve design; the Center for World Heritage Research and Stewardship, which is dedicated to the protection of significant structures, monuments, and landscapes; the Center for Advanced Construction Information Modeling, which promotes the use of 3-D modeling technologies in the construction industry; the Powell Center for Construction Environment, which focuses on sustainable construction, including net zero energy; and the Shimberg Center for Housing Studies, which maintains data on Florida’s housing stock and supports efforts to address the challenge of affordable housing in communities across the state.

**College of Education**  
The College of Education (COE) consists of three schools, six research centers, and the P.K. Yonge Developmental Research School. Enrolling nearly 1,700 students on campus in 32 bachelor’s and advanced degree programs within nine academic specialties, and nearly 4K students in 161 online courses, 14 online degree programs, and six online certification programs, the college’s educator preparation programs have been accredited by the National Council for the Accreditation of Teacher Education since 1954. The college faculty members engage in innovative research and public scholarship that enhance student readiness and achievement, whole school improvement, and leadership development in all education professions.

The college’s Education Library is a branch library within the UF library system, which forms the largest information resource system in the state of Florida. The Education Library currently houses approximately 130K books and more than 11K journals, and maintains current subscriptions to more than 700 journals. An online computer catalog and interlibrary loan system allow access to materials from libraries around the state, as well as to ERIC and other databases. The college’s Office of E-learning, Technology, and Creative Services has full-time staff available to assist faculty with their research projects, including programmers, instructional designers, and graphic artists who can quickly and efficiently collaborate with project personnel to meet technology needs. The COE has ample space to support research projects and staff. These spaces are equipped with state-of-the-art computer equipment and are suitable for meetings and group work.

**College of Engineering**  
The Herbert Wertheim College of Engineering at the University of Florida houses one of the largest and most dynamic engineering programs in the nation. Curriculum offered across nine departments, 15 degree programs, and more than 20 centers and institutes produces leaders and problem-solvers who take a multidisciplinary approach to innovative and human-centered solutions. Students, faculty and alumni are hailed as New Engineers who aim to transform the way we live, work and play. The college produces inventions at twice the national average – and startups at five times the national average – for every research dollar spent. Engineering is the largest professional school, the second largest college, and one of the top three research units at UF. Established in 1910, the college was named after Distinguished Alumnus Dr. Herbert Wertheim in 2015. The Major Analytical Instrumentation Center (MAIC), the Particle Analysis Instrumentation Center (PAIC), and the Nanoscale Research Facility (NRF) comprise the Research Service Centers (RSCs) in the College of Engineering. These are multiuser materials characterization, fabrication, and analysis facilities that provide service to all faculty and students at UF, research universities, and the industrial and commercial community. These facilities have provided teaching, training, and services for more than 30 years together and continue to be the largest and most successful hands-on, multiuser facilities at UF.

**College of Health & Human Performance (HHP)** conducts research focused on assisting individuals, families, and communities in promoting health and preventing disease as well as enhancing people’s quality of life. The college’s three departments (Applied Physiology and Kinesiology; Health Education and Behavior; and Tourism, Recreation, and Sport Management) contribute to the goals of improving human health by investigating applied physiology and kinesiology; improving health behaviors and health status of individuals and communities through research, education, innovation, and collaboration; and understanding the
psychosocial factors that lead individuals, families, and industry to value and benefit from tourism, recreation, parks, and sport.

The college houses three multidisciplinary research centers that facilitate research endeavors by undergraduate and graduate students, post-doctoral researchers, and faculty. Principal investigators in the Center for Exercise Science are pursuing questions about the cardiovascular system, skeletal muscle, heat stress, movement biomechanics, movement variability in the elderly, and human brain impairments that cause movement disorders. Faculty in the Center for Behavioral Economic Health Research are engaged in research and applications to advance the science of health behavior change and promote health and wellbeing in individuals and communities. Members of the Eric Friedheim Tourism Institute pursue tourism, travel, and hospitality research questions focusing on the long term sustainability of Florida and global communities.

**College of Journalism and Communications** The College of Journalism and Communication (CJC) is ranked in the top 10 for all communication disciplines taught at CJC, which include advertising, journalism, public relations and telecommunications as well as the science/health graduate track. The college is a home to several research programs focused on message dissemination, persuasion, and translation, and has several state-of-the-art facilities that support communication research.

CJC established the STEM-H Translational Communication Research Program as a strategic, university-wide preeminence initiative. The program aims to create a research partnership between the public, the communication process, and science/health investigators. Communication is vital to the STEM-H disciplines for translation and dissemination of consequential science and health knowledge to individuals and stakeholder groups. Needed communications research about these areas can generate understanding of how people come to know science and health and its associated benefits and risks and how people make informed decisions about science and technology areas that affect their health, security, and the environment.

The Innovation News Center (INC) is a real-world, working newsroom producing content for the UF’s seven broadcast and affiliated digital properties, including our PBS and NPR public media stations. The two-story, 14K square foot INC facilities include almost 100 seats for student reporters, producers, and editors, breakout rooms for team meetings, tablet publishing, television, and radio editing rooms, audio booths, and a mini-studio (or “live-shot area”) to create video content for broadcast and online streaming. The Summer Journalism Institute is a weeklong camp at the UF CJC for high school students. Started in the 1960s, the camp immerses the participants into the INC where they work with faculty and professionals on news stories and broadcasting on our multiple television and radio stations and WUFT.org.

The CJC Shared Research Lab comes equipped with digital recording devices and 22 research stations to provide the tools for conducting both quantitative and qualitative research. The college provides access to the web-based Qualtrics Research Suite, a comprehensive research system that can be used to design and conduct surveys, polls, and experimental studies.

The Agency is an integrated, strategic communications initiative that enables Advertising and Public Relations students to develop and test messages and communication campaigns by working in a professional environment with external customers. The Agency has more than 2K feet of dedicated space equipped with computer workstations, collaborative workrooms, and meeting space.

The Science Communications Academy offers scientists an opportunity to develop the core skills they need to explain the significance of their work to policymakers, journalists, and potential collaborators from other disciplines. Through a six workshop series, scientists learn to create compelling and visual presentations, engage the news media, and work with policymakers.

**College of Liberal Arts & Sciences (CLAS)** is one of the largest and among the first of the 16 colleges to be established at UF. CLAS forms the intellectual core of the University and is home to the humanities, the social and behavioral sciences, and the natural sciences and mathematics. The college’s 700 faculty members are responsible for teaching the university’s core curriculum to more than 35,000 students each year. Liberal Arts
and Sciences has more than 11,000 undergraduate students pursuing a variety of disciplines through its 42 majors and minors. Additionally, close to 1,800 graduate students pursue advanced degrees in the college and work with faculty to advance the frontiers of knowledge.

Faculty in Liberal Arts and Sciences rank among the best in the nation and have received a variety of national and international awards, including Guggenheim Fellowships, Senior Fulbright Awards, National Science Foundation Fellowships, Presidential Young Investigator Awards, and National Endowment for the Humanities Fellowships. They hold memberships in the National Academy of Science, the Nobel Prize Committees, the Swedish Royal Academy of Sciences, and the Royal Societies of London and Edinburgh. The college’s external research funding amounts to $30M per year.

Scientists in the College are engaged in a wide array of world-class research efforts spanning diverse topics and fields. For example, our physicists participated in the discovery of the Higgs particle using the Large Hadron Collider at CERN, created the algorithm that allowed the detection of gravitational waves at LIGO, and maintain a high-profile involvement with the National High Magnetic Field Laboratory. Our chemists are developing methods for the nanofabrication of the next generation of electronic devices, smart polymers, and more sensitive techniques for diagnosing and treating cancer. Our biologists have worked on epidemiological projects to prevent deadly outbreaks and developed conservation guidance to protect endangered species. Astronomers search for earth-like planets outside our solar system using UF’s share of the Gran Telescopio Canarias, the world’s largest telescope, and the Keck Foundation Exoplanet Tracker at the Sloan Digital Sky Survey. Our mathematicians apply their modeling skills to solutions such as reducing the wait times in hospital emergency rooms and controlling the effects of citrus greening on Florida’s agricultural industry. Our geologists study the changes that have occurred over the past 4.6 billion years in order to meet the challenges the earth is experiencing today. Our psychologists are applying cognitive and social psychological inquiry to address issues of bias, discrimination, and bullying. Faculty in the humanities publish books with leading presses and in leading journals and have garnered grants from a number of prestigious foundations, as noted above. All of these examples provide ample evidence for the breadth and depth of the research enterprise in the College of Liberal Arts & Sciences.

**College of Medicine** faculty are national leaders in fundamental, translational and clinical research in areas pertaining to diseases of the nervous system, human aging, cancer, diabetes, infectious disease, immunology and inflammation, genetics and gene therapy. College researchers are involved in collaborative research in several research institutes and centers within the university, including the Evelyn F. and William L. McKnight Brain Institute, the Emerging Pathogens Institute, the Genetics Institute, the Institute on Aging, the UF Health Cancer Center, the Diabetes Institute, the Clinical and Translational Science Institute, the Institute for Child Health Policy and the Research and Academic Center at Lake Nona.

College of Medicine faculty and collaborative research teams continue to receive awards and honors that reflect their exceptional distinctions and contributions. College of Medicine researchers have achieved an increase in National Institutes of Health funding for each of the last eight consecutive years, totaling nearly a 50 percent increase in NIH funding. This increase in NIH funding is reflected in the impressive rise in national rankings in recent years to 40 (joining the upper third of United States medical schools), according to U.S. News & World Report. With lab spaces across UF in Gainesville and at the UF Research and Academic Center in Lake Nona, the college is home to more than 380,000 square feet of research space.

College faculty members practice at UF Health Shands Hospital, the UF Health Shands Children’s Hospital, the UF Health Shands Cancer Hospital, the Malcom Randall Veterans Affairs Medical Center, the UF Health Shands Rehab Hospital and the UF Health Shands Psychiatric Hospital. In addition, physicians practice throughout North Central Florida at more than 80 UF Health Physicians practices. College of Medicine physicians accounted for nearly 839,000 physician visits in North Central Florida at UF Health Physicians practices in Fiscal Year 2016. Within UF Health Shands Hospital, College of Medicine physicians accounted for more than 50,838 patient discharges in Fiscal Year 2016.

Clinical strengths of UF physicians include cancer, heart and vascular, neurosciences, aging, psychiatry and
addiction medicine, diabetes, orthopaedics and children's health services.

**College of Nursing**  The College of Nursing (CON) is recognized nationally and internationally for innovative education, dynamic programs of research, and creative approaches to practice. Approximately 70 faculty members, the majority of whom are prepared at the doctoral level, are involved in regional/national research and in practice throughout the state. The CON graduates the largest number of baccalaureate-prepared RNs in the state and is consistently ranked in the top 10 percent of all baccalaureate and graduate degree-awarding nursing schools in the nation. Currently the average GPA for BSN graduates is between 3.5 and 3.6, and 70 percent of these students pursue graduate education within three years of earning the BSN. The CON also offers, in conjunction with the UF Graduate School, a Doctor of Philosophy (PhD) degree with a major in nursing. The College of Nursing offered one of the first Doctor of Nursing Practice (DNP) programs and it is ranked as the top program in the state by US News and World Report. CON enrollment currently consists of approximately 700 undergraduate students and 370 graduate students. Nursing students have an opportunity to learn and work with students from other Health Science Center colleges in collaborative healthcare teams. The college maintains and participates in nursing and interdisciplinary clinics for women, children, adults, and elders in a variety of settings with special emphasis on medically underserved and rural areas. The CON is located within the 173,133 square foot HPNP complex, which provides educational, administrative, and research space for the CON, the College of Public Health and Health Professions, and the College of Pharmacy.

**College of Pharmacy**  Founded in 1923, the College of Pharmacy (COP) consists of five clinical and basic science departments (Medicinal Chemistry, Pharmaceutics, Pharmacodynamics, Pharmaceutical Outcomes and Policy, and Pharmacotherapy and Translational Research ) staffed by 96 faculty. The college's research programs reside on two campuses in Gainesville and Orlando. The college attracts approximately $10M in external grants and contracts for research per year. The largest pharmacy educator in the state of Florida, the college is nationally and internationally recognized for its professional and graduate programs. As a UF Health college, the COP clinical faculty serve as a part of interprofessional teams in community health care clinics and at UF Health Shands Hospital for residents of Florida who travel to Gainesville and Jacksonville for specialized care. The college's Medication Therapy Management Communication and Care Center serves more than 150K Medicare patients nationwide.

More than 1,600 students receive professional degree education and training leading to the doctor of pharmacy (PharmD) degree. The college offers graduate programs to more than 100 students leading to a PhD or an MS degree in one of five areas: medicinal chemistry; pharmaceutics/pharmacometrics; pharmacoepidemiology/pharmacoeconomics; pharmacodynamics; and clinical pharmaceutical sciences/pharmacogenomics. The college also provides MS training in one of 11 online programs in specialized areas of pharmaceutical science to more than 800 students worldwide. Students in the online MS programs usually work in a clinical or applied science field while gaining their advanced education. The college also offers numerous continuing education programs for pharmacists, residents, and fellows. Patient care occurs at UF Health Shands hospitals in Gainesville and Jacksonville and other clinical pharmacy locations around the state of Florida. Clinical strengths are in ambulatory care, diabetes, infectious disease, patient safety, and medication therapy management.

The college has 109K square feet of space for education, administration, and research in the UF Health Science Center in Gainesville and at the UF Research and Academic Center at the Lake Nona medical community in Orlando. Both the specialized and the multidisciplinary research space at these sites support nationally and internationally recognized research programs in drug discovery, drug development, pharmacokinetics/pharmacometrics, pharmacoepidemiology, and pharmacogenomics/personalized medicine.

Faculty from across campus conduct research within one of three active interdisciplinary research centers in the college, the Center for Pharmacogenomics (CPG), the Center for Natural Products Drug Discovery & Development (CNPD3), and the Center for Pharmacometrics and Systems Pharmacology (CPSP). The CPG is recognized for its translational research, teaching, and service focused on genetically guided drug therapy.

5/25/17
decision-making. The CPG also houses the UF Health genotyping core laboratory. The CNPD3 provides both drug discovery expertise and the infrastructure to screen for novel therapeutic targets and chemical entities that modulate target activity. The CPSP uses a systems biology approach to study drug activities, their targets, and clinical effects to support and advance translational research and improve the process of bringing new drugs to market for improved patient therapies, including personalized medicines.

College of Public Health & Health Professions  The College of Public Health & Health Professions (PHHP) is one of the largest and most diversified health education institutes in the nation. Today, PHHP is one of six colleges that comprise the UF Health Science Center. The college has nine departments: Behavioral Science and Community Health; Biostatistics; Clinical and Health Psychology; Environmental and Global Health; Epidemiology; Health Services Research, Management and Policy; Occupational Therapy; Physical Therapy; and Speech, Language and Hearing Sciences. The college offers a bachelor of health science, seven masters programs, eight doctoral programs, and two professional degree programs with 155 faculty teaching a total of 2,168 students. Additionally, the college’s research funding has more than doubled during the last decade, with nearly $20M in external grants and contracts for research per year. PHHP faculty work collaboratively with many investigators across UF and on research projects locally, nationally and globally on a diverse range of topics.

The PHHP's home is in the Health Professions, Nursing, and Pharmacy (HPNP) building, completed in 2003, and includes 11 classrooms, four lecture halls, one auditorium, and a distance learning room for a total of 7,783 square feet. The college also includes the PHHP Research Complex, which is located in the Dental Wing (Ground Floor) of UF Health and totals 15,690 square feet of dedicated research space.

PHHP has 452 affiliation agreements that allow students to participate in site visits and to be placed at various organizations to complete internships, clinical rotations, supervised research, and other practical experiences. The agreements include 147 with health departments, hospitals, health centers, and Veteran's Administration facilities, 275 with clinics and private practitioners, and 30 with other universities/educational institutions.

College of Veterinary Medicine  Florida’s only veterinary college, the UF College of Veterinary Medicine (CVM) is presently home to 145 faculty, 451 DVM students, 45 residents, 15 interns, 56 traditional PhD and MS students and 144 online MS program students, 20 post-doctoral associates/fellows, and 850 staff members. Clinics, research space, offices, and teaching rooms in the college occupy a total of 331,927 square feet of space, including 73,768 of research space. The college attracts nearly $11M in external grants and contracts for research per year. The Veterinary Academic Building houses a large portion of the basic science faculty in CVM as well as a number of laboratory facilities, including BSL3 Research Laboratories. The college is organized into six functional and administrative units: College Administration; the Department of Large Animal Clinical Sciences; the Department of Infectious Diseases & Pathology; the Department of Physiological Sciences; the Department of Small Animal Clinical Sciences; and the UF Veterinary Hospitals. The college is in the process of forming a fifth department, of comparative, diagnostic and population medicine.

The CVM, fully accredited by the American Veterinary Medical Association Council on Education, offers a four-year DVM program and a joint DVM/MPH program in addition to masters and doctoral degrees in Veterinary Medical Sciences. The more than 2,900 graduates of its professional degree program are active throughout Florida, the United States, and overseas in areas ranging from in-depth scientific research to traditional small and large animal practice, zoological and aquatic medicine, public health, epidemiology, and the military. Through Veterinary Extension, a part of UF’s Institute of Food and Agricultural Sciences, CVM provides scientific knowledge and expertise to Florida residents on aquatic animals, equine research, beef and dairy cattle, and poultry. Additionally, the UF Large Animal Hospital and Small Animal Hospital offer cutting-edge veterinary medical services and facilities to the community.

Levin College of Law  The Levin College of Law offers students a diverse range of specializations and interdisciplinary options through more than 100 J.D. courses. In addition to the J.D., the college offers: an LL.M. in Taxation, an LL.M. in International Taxation, an SJD in Taxation, an LL.M. in Environmental and Land Use Law, and an LL.M. in Comparative Law (U.S. Law).
The college also houses the Center for the Study of Race and Race Relations, Center for Governmental Responsibility, Center on Children and Families, Center for Criminal Justice, and the Institute for Dispute Resolution. Nearly 80 full-time faculty members teach at UF Law, in addition to dozens of adjunct and affiliate professors. Several faculty members are scholars in their field, writing chapters, articles, treatises, casebooks, and major books used by law schools and practitioners throughout the nation and world.

**Warrington College of Business Administration** The Warrington College of Business Administration has six undergraduate majors, six minors, seven specialized master’s programs, five Ph.D. programs, and two doctorate degrees. The college has more than 100 faculty members across four departments conducting vital research in the fields of finance, information systems and operations management, management, and marketing. In addition to their teaching and research duties, Warrington scholars are also extremely active in professional service. Our professors have served as reviewers, editors, and in leadership positions on the editorial boards of some of the world’s elite academic publications.

The college’s expansive research agenda also includes 11 research centers that are dedicated to producing studies and examinations that provide thought leadership to academic, business and governmental organizations globally. Warrington’s research centers include entrepreneurship, international business, business communication, supply chain management, retail, ethics, human resources, accounting and auditing, real estate, economics and teaching, and learning and assessment. The studies, conferences, workshops, and academic and professional programs these centers produce make significant and tangible impacts in their respective fields.

Warrington’s business education offers a blend of traditional classroom instruction with innovative experiential learning opportunities, Warrington’s curriculum challenges students to think creatively and generate solutions.

**OTHER FACILITIES AND RESOURCES AFFILIATED WITH CTSI**

**Advanced Magnetic Resonance Imaging and Spectroscopy** Advanced Magnetic Resonance Imaging and Spectroscopy (AMRIS) is a state-of-the-art nuclear magnetic resonance (NMR) facility located on the ground floor of the McKnight Brain Institute at UF. AMRIS was developed in part through a grant from the Department of Defense. The National High Magnetic Field Laboratory supports an External Users Program in AMRIS through funds from the National Science Foundation. All AMRIS systems are available to UF researchers and external academic and industrial scientists.

AMRIS currently offers users nine NMR spectrometer systems with different magnetic fields and configurations for a full spectrum of magnetic resonance experiments including high resolution solution NMR, solid-state NMR, microimaging of biomolecular systems and tissues, animal imaging, and human imaging. AMRIS has nine professional staff members to assist users, maintain instrumentation, build new coils and probes, and help with administration.

Several of the AMRIS instruments offer users unique capabilities: the 750 MHz wide-bore provides outstanding high-field microimaging for excised tissues and small animals; the 11.1 T horizontal MRI is the largest field strength magnet in the world with a 400 mm bore; the 600 MHz 1.0 and 1.5 mm HTS cryoprobes are the most mass-sensitive NMR probes in the world for 1H and 13C detection, respectively, and are ideal for natural products research; and the 3T human whole body has 32 channels for rapid parallel imaging and is the only whole body instrument in the state of Florida dedicated to research. Most recently (2013) AMRIS added a 5T Dynamic Nuclear Polarization (DNP) polarizer with helium cryostat. These systems support a broad range of users with tasks from natural product identification to solid-state membrane protein structure determination to cardiac studies in animals and humans to tracking stem cells and gene therapy in vivo to functional MRI in humans.

**Animal Care Services** Animal Care Services (ACS) serves nearly 600 UF faculty and approximately 1,400
animal care and use protocols in various research and teaching programs. The UF animal care program has been continuously accredited by the Association for the Assessment and Accreditation of Laboratory Animal Care International since 1966 and is registered with the United States Department of Agriculture as a research site. ACS manages 12 animal housing facilities totaling approximately 200K square feet that include environments ranging from ABLSL3 to rodent barriers, which are essential to the development and maintenance of unHarique transgenic rodents and the conduct of experimental protocols.

The housed species range from mice and other rodent species to large animals such as pigs, sheep, horses, cattle, and nonhuman primates. The ACS has a veterinary staff that consists of eight board-certified veterinarians and ten veterinary technicians primarily involved in providing or supervising veterinary care, protocol review, surgical services, pathology services, diagnostic laboratory services, training of investigators, and investigator staff and compliance. ACS has a total staff of approximately 130 employees who provide daily animal husbandry and veterinary care.

**Biobehavioral Core** The Biobehavioral Core facilitates translational research by providing research personnel trained to administer a core set of behavioral assessments; coordinating access to biobehavioral research resources across collaborating colleges; providing/facilitating training for the administration of core assessments; serving as a training site for pre- and postdoctoral trainees in the behavioral sciences; and providing consultation regarding potential assessment tools for both animal and human work. Identifying potential avenues for biobehavioral integration is a key role of the core. The core director and staff work with investigators to identify areas of potential integration. The core maintains a central library of behavioral and paper/pencil assessments often used in health-related research, including standard assessments of depressive and anxiety symptoms, reading skill (as an estimate of premorbid functioning), basic perceptual- motor, learning/memory and problem-solving tasks, and demographic information including family trees/pedigrees.

**Bureau of Economic and Business Research** founded in 1930, and part of the UF College of Liberal Arts and Sciences, BEBR conducts research in its Population, Economic Analysis, Survey Research and Social Networks programs. The Population program produces Florida’s official state and local population estimates and projections, and it conducts Geographic Information Systems (GIS) and demographic research. Economic Analysis conducts research such as cost/benefit analysis, economic impact studies and employment projections for state and local governmental agencies and private industry. The UF Survey Research Center (UFSRC) conducts large-scale telephone, mail, web and face-to-face surveys out of a 93-station lab. Projects are particularly focused on, but not limited to, health care research. The Social Networks program investigates connections across personal networks: applications include fostering scientific collaboration, increasing research efficiency and improving health outcomes.

**Cardiovascular Cell Therapy Center** The UF Cardiovascular Cell Therapy Center is a collaborative effort of basic and clinical researchers from the Health Science Center who are dedicated to adult stem cell research in order to improve the outcome of patients with diseases of the heart and cardiovascular system. This collaborative team is also part of the Cardiovascular Cell Therapy Network and has been sponsored and funded by the National Heart, Lung, and Blood Institute of the National Institutes of Health since 2006. This network is composed of physicians, scientists and support staff from institutes and universities across the country, including the Minneapolis Heart Institute Foundation, the University of Minnesota, the Texas Heart Institute Stem Cell Center, the University of Louisville, the Vascular and Cardiac Center for Adult Stem Cell Therapy, the UMiami and Stanford University.

**Cell & Tissue Analysis Core** The McKnight Brain Institute’s Cell & Tissue Analysis Core (CTAC) consists of two facilities that provide the UF research community with a wide array of imaging modalities as well as basic histology equipment for tissue sample preparation. The CTAC Imaging facility maintains instrumentation for both in vitro and in vivo imaging experiments.

Microscopes for in vitro imaging include laser scanning and spinning disk confocal systems, an automated live-cell time-lapse and tile-mapping system, and standard wide field systems in both inverted and upright formats for fluorescent, bright field, and H&E projects. Instrumentation for in vivo experiments includes high resolution
ultrasound, preclinical bioluminescent and fluorescent imaging, and an intra-vital laser scanning fluorescent microscope.

The imaging facility also has software available for image deconvolution, quantification, and 3-D rendering. The CTAC Histology Resource Lab provides researchers with access to cryostats, microtomes, microwave processing, paraffin embedding, laser capture micro-dissection, and other tissue-processing equipment. CTAC’s skilled technical staff is available to train new users, assist, or operate each piece of equipment.

**Center for Health Equity and Quality Research**  The Center for Health Equity and Quality Research (CHEQR) is an important research resource for the UF Community Based Participatory Research at the Jacksonville campus. CHEQR core faculty include researchers with a background in public health, and health services research, as well as training in health education and evaluation research, health services and outcomes research, and mental health services Research. The Center also includes a PhD level Biostatistician and two master’s level biostatisticians, and research coordinators. CHEQR faculty and staff are expert in the use of a wide range of research methods including community evaluation research, community-based participatory research, quality of care and outcomes research, clinical trials, and translational research. CHEQR provides the research infrastructure for UF Health Jacksonville by providing research design and analysis consultation services to faculty, residents and fellows, including help with IRB preparation and submission, development of protocols, grant development, data collection, data analysis, and report generation; assisting UF faculty in the development of research teams through collaborations with investigators from UF Gainesville and other institutions; providing data management and analytic support to quality management initiatives for the enterprise; providing education to faculty, residents, and fellows on biostatistics, research design, and epidemiology through annual lecture series and online courses; and providing mentoring on research and project management support for fellows to help develop the next generation of faculty at UFHealth.

**Center for Movement Disorders and Neurorestoration**  UF founded the Center for Movement Disorders and Neurorestoration in 2002 with the vision of creating a world class clinical research center to provide a single destination for patients, families, doctors, and leading edge scientists. The clinical research center has 13K square feet of dedicated space on the fourth floor of the UF Orthopedics and Sports Medicine Institute. The space for movement disorders and neurorestoration includes 21 dedicated patient exam rooms as well as tailored space for clinical trials, research, telemedicine, and one of the world’s largest movement-disorders databases with 10,200 enrolled patients. The space is also equipped with areas for full physical therapy, occupational therapy, speech therapy, and convenient in-building access to an MRI and swallow suite.

The center possesses strengths in movement disorders neurology, neurosurgery, neuropsychology, psychophysiology, imaging (MRI, fMRI and others), technology development, psychiatry, biomechanics, PT, OT, and speech/swallowing. The movement disorders group has collaborative research projects with 40 faculty from more than 10 UF departments. The deep brain stimulation (DBS) program is one of the most productive and published in the country and has a track record of significant NIH funding.

The Center for Movement Disorders and Neurorestoration research laboratory houses the movement disorders database which has a full-time data manager, a scannable data entry system, and gets data from the medical record. The Data & Analysis Committee oversees all projects that use the database and works to strengthen the methods of the projects. The laboratory also houses a Linux computer networked to the DBS operating room which can be used for CT-MRI fusions, target planning and discussion, and post-operative lead location measurements. The research team also includes several dedicated clinical trial coordinators who manage 40 clinical trials. Additional research labs include a gait lab and neuropsychology lab with soundproof room to prevent outside interference.

**Center for Precollegiate Education and Training**  Since 1995, the Center for Precollegiate Education and Training (CPET) has involved hundreds of faculty in offering content-rich, laboratory-based, professional development programs for secondary school teachers coupled with school-year follow up. CPET collaborates annually with more than 300 faculty volunteers and hundreds of educators from around the state of Florida.

5/25/17
CPET currently assists more than 30 researchers with the design and implementation of specific activities to broaden the impacts of their individual grants or pending proposals. CPET’s programs incorporate bridging activities that include teachers, researchers, and industry professionals in preparing and delivering effectual science education and career investigation from middle school through graduate school. Its instruction incorporates multiple research-based and novel teaching/learning strategies and is aligned with national and state education standards. CPET extensively interacts with graduate students across campus and actively solicits, coordinates, and oversees their voluntary or for-credit participation in precollege programs.

CPET programs are designed to expand the content knowledge, skills, resources, networking, and enthusiasm of teachers and to reengage them with the university community. Newly generated and published curricular materials, methods and modules, and increased involvement of teachers and their students in school-site, inter-school, and university campus research and career-related activities are used to measure success. Outcomes include rich curricula related to research and aligned with education standards that will be shared face-to-face and online as well as successful dissemination of UF research and recruitment of new “gators” and future STEM and health professionals. Outcomes also include increased funding and sustainability through leveraging for precollege education: broader impacts for research; exposure to STEM academic, health, and industrial careers (pipelines); and a growing culture of interest and experience in research teaching, outreach, and associated professional development in mentoring and science communication for graduate students and their research mentors.

**Center for Safety, Simulation & Advanced Learning Technologies (CSSALT).** CCSALT has access to two different state-of-the-art simulation spaces in the Harrell Medical Education Building (HMEB). The Lou Oberndorf Experiential Learning Theatre contains 1,600 square feet of flexible simulation space that can be transformed into any healthcare provider setting (OR, L&D, ER, ICU, etc.). The Simulation OR has 700 square feet of space that is equipped with an Anesthesia machine, laparoscopy equipment, OR lights and table. These simulation spaces feature multiple in-ceiling cameras with microphones (ceiling and lapel) to record video that can be used for debriefing. In addition to simulation space, there are another 430 square feet of office and workshop space in the HMEB that are used to develop simulators and medical device technologies.

These spaces house a number of different simulators and medical devices including three CAE/METI mannequin human patient simulators: adult, pediatric, and infant; a bronchoscopy part task trainer; a transthoracic/transesophageal echocardiography simulator; and two Virtual Humans developed at the UF Department of Computer & Information Science & Engineering. Part task trainers include those for central venous access, regional anesthesia, ultrasonography skills and cross-sectional literacy, airway trainers (7), central venous cannulation, IV placement in the foot and arm, and spinal injection. Medical equipment includes three anesthesia machines, an ultrasound machine, state-of-the-art physiological monitors and gas analyzers, an array of airway devices, a defibrillator with crash cart, a 62” touch-sensitive display, a Polycom video conferencing system, piped medical gases, clinical supplies, and two calibrated mechanical lung models. Other development equipment includes a wearable optical display, a virtual reality device, a 3-D printer, and microcontrollers. Ceiling-mounted IR tracking cameras in the simulation and engineering labs and magnetic tracking systems enable mixed reality applications.

Another Simulation OR is at Shands 2121 outside the HMEB. It is a 700 sq. ft. former operating room re-assigned solely to simulation and training of clinical staff, including CPR training for nurses. It is conveniently located in the Shands Hospital clinical area, surrounded by operating rooms. It contains a mannequin patient simulator (3G, Laerdal) and provides an authentic (actual) OR environment. The simulation center also encompasses the Virtual Anesthesia Machine website, which hosts a portfolio of web-enabled transparent reality simulations and PK/PD models developed by CSSALT personnel and used worldwide and the [http://simulation.health.ufl.edu](http://simulation.health.ufl.edu) website.

CSSALT works closely with the UF Institutional Review Board and has access to undergraduate psychology and medical students undergoing their compulsory anesthesia rotation as well as anesthesia residents and fellows. CSSALT is endorsed by the American Society of Anesthesiologists to deliver the Maintenance of

5/25/17
Certification in Anesthesiology (MOCA) daylong, simulation-based, formative experience for practicing anesthesiologists. CSSALT is partly funded by grants from DoD and NSF.

Center for Translational Research in Neurodegenerative Disease The CTRND supports faculty appointed in the Departments of Neuroscience, Neurology, Anesthesiology, and Pharmacology that utilize wide-range of technical and conceptual expertise in research aimed towards developing new therapies for neurodegenerative disease. Our strengths include animal modeling using transgenic technology and recombinant adeno-associated virus, and biotherapeutic development using monoclonal antibodies and neuroinflammatory modulators. The CTRND uses an open lab structure that facilitates frequent interaction across labs. The laboratories are designed as a typical molecular biology and biochemistry laboratories with waist height benches, with rooms equipped for cell culture (Forma or Baker tissue culture hoods; Forma or NuAire cell incubators; table top centrifuges, and microscopes). The CTRND has in-house histopathology group that includes dedicated personnel and equipment, including 2 Leica CM-1850 cryostats, sliding and rotary microtomes, paraffin embedding station, and an automatic tissue processor. The CTRND also has an Imaging lab that includes Aperio ScanScope XT and FL systems equipped with fluorescence and stereology packages and computers. The lab is in the process of replacing the Aperio equipment with a new Zeiss scanner. Additional CTRND equipment includes a Bruker-Daltonics Microflex LRF mass spectrometer, Bio-Rad NGC FPLC, Amersham AKTA FPLC, Amersham AKTA Prime Plus HPLC, Eppendorf EpMotion Liquid Handler, LiCor Odyssey IR imager, Thermofisher NanoDrop 2000, multiple spectrophotometer, and multiple gel documentation systems for both DNA and protein gels/blots. The CTRND maintains a brain bank that currently has ~200 neuropathologically characterized brains with ongoing addition of ~20 brains per year. Tissue, both frozen and paraffin embedded, is available to all University investigators with proper regulatory approvals.

Child Health Research Institute UF established the Child Health Research Institute (CHRI in 2006 to provide the environment necessary to focus on and develop a wide variety of unique research concepts and to support pilot research activities of faculty to obtain data necessary to submit research proposals to outside agencies. The CHRI creates support infrastructure and fosters collaboration between investigators and teams from various departmental specialty divisions, the College of Medicine departments, the Health Science Center colleges and the main campus departments. The institute also supports pediatric and pediatric sub-specialty fellows and residents during their required research rotation. The institute was integral to establishing pre-eminent pediatric translational research programs with NIH-funded investigators, creating synergy with the Cancer Center, Brain Institute, Genetics Institute, Diabetes Research Center and Powell Gene Therapy Center. The institute fills an infrastructural gap, providing support for collaborative research across divisions of the Department of Pediatrics and Health Science Center, fostering interactions and collaborations among physicians, physician/scientists and basic scientists on campus.

Click Commerce UF implemented Huron’s Click Commerce IRB module for processing and managing human subject research submissions. UF’s implementation of this interactive web-based platform facilitates four major benefits: integration with other research units, in-line education, enhanced compliance, and improved efficiency to its human subject research enterprise. UF’s Click system integrates data capture, education, and real-time parallel review for multiple research related offices (e.g. billing compliance, radiation review, etc.) beyond just the IRB. Adaptive submission forms simplify the process for researchers and serve as a research enterprise roadmap by targeting instructions for relevant requirements. Facilitating navigation of the UF research enterprise maximizes researcher efficiency and improves compliance with all applicable requirements. Robust, integrated validations improve submission quality, thereby reducing submission rejections as well as insuring compliance oversight units comply with all applicable regulatory requirements.

Dental Clinical Research Unit The facilities of the Dental Clinical Research Unit (DCRU) enable performance of state-of-the-art clinical research in the field of oral and craniofacial clinical and translational research, and foster collaborative research with areas of biomedical research. Examples of investigational research include fundamental clinical studies funded by the NIH exploring the etiology and pathologies of oral infectious diseases and translational research that evaluates the efficacy of anti-inflammatory products, growth factors in periodontal regeneration, systemic and locally delivered antibiotics, other antimicrobials and antiseptic agents, and newly developed health care products or devices. The DCRU also assists with in vitro
studies of antimicrobial compounds and susceptibility studies and evaluate diagnostic methods and procedures.

The DCRU has the capability to direct phase I, II, and III trials complete with microbiological analysis. Investigators affiliated with the DCRU may perform clinical trials within the DCRU facility located at the UF College of Dentistry and/or within other facilities associated with the DCRU or the CTSI. DCRU clinical and laboratory staff are knowledgeable and experienced in clinical trials involving pharmacology, immunology, microbiology, periodontology, and hypersensitivity and are willing to explore new areas of collaborative research. Facilities and resources within the DCRU include six enclosed private dental operatories, office space, dental laboratory, wet lab space for processing of samples, first aid emergency kits, radiography, and secure individual storage space.

The DCRU provides advice, assistance, design, and/or direction to short- and long-term clinical/translational research projects. Services offered include protocol reviews, assistance with budgets, calibration of equipment, subject recruitment, staffing, scheduling assistance, assistance with regulatory issues, diagnostic methodology project closures, safety and efficacy testing, claim support, and pharmacokinetic testing. Assistance with data collection, management and analysis is also available. Data systems are subject to continuous quality control. Standard and electronic chairside data entry is available as well as clinical and microbial integration. Assistance is available for specialized reports such as the final report for corporate sponsors, ADA or FDA submissions, or preparation of scientific abstracts.

Available equipment includes six Adec dental chairs utilizing Optima MX2 high speed/low speed handpiece adapters and high/low volume evacuators and air/water syringes; two Isolite Illuminated Dental Isolation systems; four Dentsply Cavitron Plus units; Gendex Expert x-ray machine; Air Technologies Scan X Digital Imaging System; Scotsman Touch Free ice machine; -80° Thermo Scientific freezer; M11 Ultraclave; the Print Smart Xerox WorkCentre 3655 Copier, Fax, Scanner and Printer and a Xerox Colorqube 8880 Printer; dental instruments (restorative kits, prophy kits, surgical kits); and clinical supplies (cover gowns, gloves, mask, safety goggles, dental unit barrier covers).

Department of Biostatistics The Department of Biostatistics is dual-governed by the colleges of Public Health and Health Professions and Medicine and is primarily located in the Clinical and Translational Research Building (CTRB) where it occupies 6,700 square feet. The department has a secondary campus location in Dauer Hall, in the Center for Statistical and Quantitative Infections Diseases (CSQUID). In addition, 5,605 square feet of leased off-campus space houses personnel from the Children’s Oncology Group (COG). The department currently has 18 faculty members assisted by six full-time staff members who provide the academic and departmental functions. The department has two “smart” conference rooms, including a large digital flat-screen, a web-linked computer and conference phone as well as collaboration areas for informal research collaboration meetings.

The Department of Biostatistics offers three degree programs: the Master of Public Health Program (Biostatistics concentration); the Master of Science in Biostatistics Program; and the Doctor of Philosophy in Biostatistics Program. Faculty members are also dedicated to performing cutting-edge theoretical and applied research. Areas of expertise include clinical trials and study design, big data and data networks, metabolomics, medical imaging, population data analysis, causal inference, longitudinal data analysis, statistical genetics and genomics, and survival analysis. Department faculty provide scholarship in biostatistics and partnership in research for colleges across UF and worldwide. They are widely published in academic journals and well-funded by numerous sponsors such as the National Institutes of Health, the National Science Foundation, the National Children’s Cancer Society, the St. Baldrick’s Foundation, the Leukemia & Lymphoma Society and the U.S. Department of Veterans Affairs.

Department of Epidemiology The Department of Epidemiology, formed in 2011, is dual-governed by the colleges of Public Health and Health Professions and Medicine. Five full-time staff members provide the academic and departmental functions alongside 17 full-time and three part-time faculty. Located in the new state-of-the-art Clinical and Translational Research Building (see below), the department occupies 6,700
square feet of the fourth floor. HealthStreet, the community engagement arm of the CTSI founded and co-directed by Dr. Cottler, is also part of the Department of Epidemiology. The department offers four academic programs, including a Master of Science in Epidemiology and a Certificate in Psychiatric Epidemiology. The epidemiology concentration in the Master of Public Health Program is typically the largest cohort within the program, and the PhD in Epidemiology Program is rapidly growing, now with 20 graduates. The department is also home to two training programs: a National Institute on Drug Abuse T32, UF Substance Abuse Training Center in Public Health, about to enter its fourth year; and a Fogarty International Center D43, Indo-US Training in Chronic Non-Communicable Disorders and Diseases Across the Lifespan, with 18 past and current trainees from India. The department is also home to the Southern HIV and Alcohol Research Consortium, recently approved as the SHARC Center for Translational HIV Research, which provides research infrastructure, training, and mentoring to improve health outcomes and reduce HIV transmission among the diverse range of populations affected by alcohol and HIV infection in the Southeastern United States. Faculty are active in research, garnering about $4M in extramural funding yearly. Fields of expertise include community engaged research, public health surveillance, global health, methodology, healthcare safety and quality, violence and victimization, and areas within epidemiology such as psychiatric, behavioral, cancer, cardiovascular, environmental, genetic, and infectious disease. Epidemiology faculty members engage in numerous collaborations throughout UF and across the country.

Department of Health Outcomes & Policy  The Department of Health Outcomes & Policy’s 23 faculty sustain a large and diverse research portfolio in prevention science, health promotion, policy evaluation research, health disparities, health outcomes studies, and biomedical informatics. Many of the senior faculty are nationally recognized scholars in their respective research foci. Areas of focus include health care outcomes and preventive interventions for low-income children and adolescents, risk behavior reduction, alcohol and drug abuse prevention, community intervention trials, community-engaged research, health care quality and outcomes for disadvantaged populations, health care economics and delivery system factors related to the quality and outcomes of cancer care, and cancer outcomes, including health promotion related to the prevention and early detection of cancer and cancer survivorship. Moreover, the department's burgeoning research agenda around biomedical informatics positions the department well to contribute to this crucial component of clinical and translational research. The biomedical informatics team asks critical questions about the very nature of information—and its integrity—to leverage the ever-increasing amount of health data to improve health, health care and health policy. The team collaborates with researchers and clinicians throughout the UF Health system and UF to conduct research using big data. Faculty in biomedical informatics also provide crucial leadership for the statewide OneFlorida Clinical Research Consortium, a research infrastructure for conducting pragmatic clinical trials and implementation science studies at clinics in all 67 counties. A key resource within OneFlorida is the OneFlorida Data Trust, a data warehouse of de-identified electronic health records of more than 10.6 million patients from health care partners across the state. These collaborations offer abundant opportunities for real-world learning for students and innovative research with interdisciplinary faculty members. The biomedical informatics team at the University of Florida focuses its efforts on the last two stages of the translational research spectrum. While a few projects delve into work on the molecular or DNA level, most of the research conducted within the BMI team focuses on implementation within real-world health care settings and data-mining and analysis at the population level. All full-time faculty members have joint appointments with the Institute for Child Health Policy, which provides a venue for collaboration around children’s health issues with affiliate faculty across the University of Florida. Founded in 1988, the Institute for Child Health Policy is nationally and internationally renowned for improving children’s health via the application of rigorous research methods. To support this diverse portfolio, the department and institute house more than 150 professional and support staff. Totaling $38 M annually, the extramural funding portfolio in HOP and ICHP is diverse, with current funding from the National Institutes of Health, the Patient-Centered Outcomes Research Institute, the Florida Department of Health James and Esther King Biomedical Research Program, Health Resources and Services Administration – Maternal and Child Health Bureau, State of Florida, State of Texas, the U.S. Department of Justice, and the National Cancer Institute.

Department of Pediatrics  The UF Department of Pediatrics serves pediatric patients and conducts both laboratory and clinical research. State-of-the-art facilities and equipment coupled with distinguished faculty foster a collaborative and multidisciplinary patient care and research environment. With approximately 150
faculty members, the Department of Pediatrics is one of the largest departments within the UF College of Medicine. Extramural research funding for the Department of Pediatrics totals $10M annually. The Children’s Miracle Network provides an additional $1.25M to support the research efforts of the department. Departmental research is conducted in more than 15K square feet of dedicated research space within the Academic Research Building and the Cancer and Genetic Research Complex; both buildings are located in the UF’s Health Science Center. The research facilities are fully outfitted with the equipment necessary to conduct cutting-edge research.

The Department of Pediatrics is home to the Powell Gene Therapy Center as well as the Family Data Center (FDC). The FDC has a repository of historical data and operates statewide data collection systems. The range of work includes data analysis; statistical modeling and reporting; data warehousing; data merging (deterministic and probabilistic); data cleaning and profiling; database and data dictionary creation; development, hosting, maintenance, and operation of web-based data collection systems; and manual data entry. Data are linked, stored, and managed in a data warehouse with multiple levels of security. The FDC’s warehouse contains maternal and child health records from pregnancy through early childhood and education records from preschool through high school. Warehouse databases include Vital Statistics records, Healthy Start prenatal screening/service records, WIC, records of the Childhood Lead Poisoning Surveillance system, and the Florida Birth Defects Registry (Department of Health); hospital discharge and Medicaid eligibility/claims records (Agency for Health Care Administration); student course loads, grades, standardized test results, attendance, and behavior referrals (Department of Education).

The Department of Pediatrics is affiliated with UF Health, offering pediatric services at multiple sites in North Central Florida. Under the guidance of faculty, these sites also serve as the primary training locations for UF medical students and residents. The UF faculty physicians provide services in more than 40 satellite practices managed by Faculty Group Practice/UF Physicians throughout North Florida. Notable locations where pediatrics services are offered include UF Health Shands Children’s Hospital and UF Health Pediatric Specialties Clinic.

**Diabetes Institute**  The Diabetes Institute includes more than 100 investigators from multiple College of Medicine departments as well as investigators from the UF colleges of Engineering, Pharmacy, and Nursing, IFAS, the Institute on Aging, and the Genetics Institute. All are active collaborators and contribute to an atmosphere conducive to and supportive of comprehensive diabetes research. UF has led multiple studies on the pathogenesis and natural history of Type 1 diabetes, which involved the analysis of tens of thousands of individuals. UF has stored serum, plasma, and/or DNA samples (as well as associated clinical laboratory data) from more than 75K individuals (i.e., type 1 diabetes patients, their relatives, persons with other autoimmune disorders, healthy controls) throughout the U.S. as well as developed relationships with lay organizations (i.e., ADA, JDRF, Children with Diabetes) in order to aid investigators in terms of subject recruitment. UF serves as both the lead Administrative Unit and the Organ Procurement and Processing Core for the JDRF-funded Network for Pancreatic Organ donors with Diabetes (nPOD) program. It is the world’s largest repository of whole pancreata and lymphoid tissues from subjects with Type 1 diabetes, persons at increased risk for the disease, control subjects across a variety of ages, and those with other pancreatic disorders relevant to address questions about Type 1 diabetes.

The core research facilities for Type 1 and Type 2 diabetes measure in excess of 50K square feet, including modern laboratories. More than 20K square feet of laboratory space within the Biomedical Sciences Building is dedicated to molecular biology, immunology, and pathology core facilities. Equipment operated and owned by the Diabetes Institute include thermocycler, flow cytometers, scintillation and chemiluminescence counter gamma counter, ELISA readers, cell sorter, Coulter counter, photomicroscope, biosafety cabinets, incubators, centrifuges, automated cell harvester, DNA, RNA and protein purification system, and a qPCR system. In addition, the Diabetes Institute has access to two different confocal microscopes as well as a laser capture microscopy unit.

**Electron Microscopy Core**  The Electron Microscopy Core (EM Core) occupies approximately 1,800 square feet in the basement of the UF Academic Research Building. The facility is part of the Department of Medicine,
but it also provides access, assistance, and services to researchers in other UF colleges as well as researchers outside of UF. The mission of the EM Core is fourfold: to provide investigators with access to instruments necessary for ultrastructural research; to teach faculty, staff, and students methods in ultrastructural research; to provide technical services; and to consult with faculty, staff, and students on projects and advise them regarding possible approaches to their research questions involving ultrastructural research.

The EM Core houses a transmission electron microscope and support equipment for light and electron microscopy sample preparation and image processing, plastic polymerization, cold processing, and vibratome sectioning, light microscopy sample processing, sample storage, and digital light microscopy. It also houses all necessary support equipment and technical expertise for ultrastructural morphologic, morphometric, and immunolocalization research. In addition to standard laboratory equipment and computers, the support equipment includes a Leica DM2000 microscope, a Nikon LaboPhot-2 microscope, four ultramicrotomes, a EM TP automatic tissue processor, fume hood for TEM tissue processing, microtome for sectioning polyester wax and paraffin embedded samples, two Lancer Vibratome sectioning systems for preembedding immunolocalization studies, a Pelco BiowavePro laboratory grade microwave with temperature regulated by a Pelco SteadyTempPro for microwave-assisted immunohistochemistry, antigen retrieval, and tissue processing; a cold room, and a Leica AFS automated freeze substitution unit for EM tissue processing at cold temperatures.

**Emerging Pathogens Institute** The Emerging Pathogens Institute (EPI), created in 2006, provides a research environment to facilitate interdisciplinary studies of emergence and control of human, animal and plant pathogens. Major areas of research include Vector-borne diseases, influenza, tuberculosis, enteric and foodborne illnesses, and antibiotic resistance. EPI is housed in an 88K square foot research building dedicated for institute use. The building includes 16 BSL3 laboratory modules as well as extensive BSL2 space and space for biomathematics; it has 50 faculty offices, 150 spaces for graduate students and post-doctoral fellows, and multiple conference rooms (including a 70-seat seminar room). The Institute has over 200 affiliated faculty, from 11 different UF Colleges, with collaborations in over 34 countries.

**Florida Innovation Hub** The Florida Innovation Hub at UF is a 50K square foot, multiuse incubator that is currently home to over two dozen startups. Its mission is to provide an innovation ecosystem for connecting all the elements critical to creating and supporting technology-based companies. It is one of the only incubators in the nation to house a leading university technology transfer office, numerous service providers, and other partner organizations that nurture high-tech companies. It was built with an $8.2M grant from the Economic Development Administration and a $5M match from UF. It opened its doors in October 2011 and has already nurtured the creation of more than 400 jobs. It is located in Innovation Square, a unique 24/7 live, work, and play community located just blocks from campus and blocks from downtown Gainesville.

**Florida Neonatal Neurologic Network** The Florida Neonatal Neurologic Network (FN3) is a long-term collaboration between Level III facilities in North and Central Florida designed to improve the outcome of babies with hypoxic-ischemic encephalopathy (HIE). A single care center cannot perform this research due to the small number of patients treated per year. Therefore, a collaborative network has been developed to impact outcomes. UF Health Shands Hospital serves as the hub. FN3 currently has a standardized hypothermia protocol with the same entry criteria, standardized systemic supportive care protocols, a centralized data repository for capturing patient demographics (REDCap), standardized MRI result reporting, a standardized developmental follow-up time line, and a serum sample repository located at UF Health. FN3 is reducing confounding variables for studying babies with HIE and improve outcomes by standardizing practices among the centers. FN3 currently consists of nine Level III NICUs in North and Central Florida including Gainesville (UF Health Shands), Tampa (Tampa General Hospital-USF, St. Joseph’s Hospital), Jacksonville (UF Health Shands – Jacksonville and Baptist-Wolfson Children’s Hospital), Orlando (Florida Hospital), Tallahassee (Tallahassee Memorial), Gulf Coast (Panama City), and Sacred Heart (Pensacola). The network has active on-line teaching, one annual meeting, and quarterly conference calls.

**Harrell Medical Education Building** The George T. Harrell, M.D., Medical Education Building opened in Fall
2015 and serves as a home for medical education at UF, accommodating advanced simulation training and meeting the educational needs of the next generation of UF physicians and physician assistants. The Harrell Medical Education Building is a 95K-square-foot, four-story facility that is located in close proximity to UF Health Shands Hospital. Its design facilitates the collaborative education of health sciences students at the UF College of Medicine. It features a state-of-the-art experiential learning center to teach complicated, high-risk skills, including an experiential learning theater with retractable walls and concealed grid to accommodate dozens of configurations and hundreds of health care scenarios, as well as one UF Health Shands Hospital mock operating room. It offers an expanded clinical skills learning and assessment center, with 18 standardized patient examination rooms equipped with video cameras and microphones; a control room with display screens to record student-patient encounters; spaces for review and evaluation of students’ skills; and two hospital rooms modeled after UF Health Shands Hospital patient rooms. It also has two circular learning studios – each of which can accommodate up to 160 students – with six oversized video screens, ceiling-mounted projectors and sound-absorbing acoustical wood paneling.

**HCV-TARGET** Recognizing the issues and risks associated with the rapidly evolving HCV treatment landscape, in 2011 investigators at UF and University of North Carolina jointly established a large, real-world treatment registry, HCV-TARGET. HCV-TARGET is rooted in the infrastructure and collaborative network of the NIH Clinical and Translational Science Award (CTSA) and includes 30 CTSA-supported institutions among its participating academic (43 sites) and community (17 sites) centers in the U.S., Canada, and Europe. The network has grown into extensive partnership between academic and community centers, multiple pharmaceutical industry collaborators, HCV community advocate representatives and the FDA, all of whom share in common aims for data use and analysis. The HCV-TARGET Clinical Coordinating Center (CCC) is housed at UF (PI: David R. Nelson, M.D.) and Data Coordinating Center (DCC) at the University of North Carolina at Chapel Hill. UF has devoted staff resources, separate work space in the Clinical and Translational Research Building, and equipment to support HCV-TARGET CCC operations for managerial, contractual, fiscal, data entry, regulatory, protocol, and administrative oversight. This includes a full-time project director and part-time regulatory director, both experienced in HCV treatment and clinical trial administration, a single contract negotiator from the UF Contracts and Grants office to negotiate all funding, collaborative, and sub-site agreements, and a 12-member team of data abstractors. DCC resources include an full-time assistant director, three full-time data monitors, a data manager and three statistical computation specialists, and weekly statistical and epidemiological consultation from two senior faculty members. Through these collaborative teams, HCV-TARGET developed standardized, centralized chart data abstraction methods coupled with risk-based data monitoring to increase the efficiency and quality of an observational registry cohort study while also minimizing costs typically associated with performing post-marketing clinical research. The network hosts CFR 21 Part 11 compliant REDCap databases with MEDRA adverse event and WHO drug dictionary coding standardization. The database is also CDISC compliant, allowing the data to be shared directly with the FDA for analyses around safety and efficacy as part of a formal MOU (#225-13-0012) executed in 2013. The network also collects and stores samples in the UF-CTSI Biorepository that can be used for future research. This efficient infrastructure has enrolled more than 10K patients, generated greater than $45M in funding, was awarded a $15M PCORI pragmatic HCV trial, and has been utilized by industry partners to conduct early/expanded drug access studies, non-IND phase 4 studies and to fulfill post-marketing commitments related to HCV.

**Health Science Center Library** The UF Health Science Center (HSC) Libraries are active partners in the education, research, training, and clinical needs of the HSC colleges, centers, and institutes, UF and the state. The HSC Libraries include two facilities – the main library on the Gainesville campus and the Borland Health Sciences Library on the Jacksonville campus – and are affiliated with the College of Veterinary Medicine Education Center and UF Health Archives.

The main HSC Library in Gainesville, founded in 1956 along with the College of Medicine, is a 53K square foot, technology-enhanced facility whose users may access 162 publicly available computers on all three floors of the library, including 30 big screen monitors. Free wireless access is available throughout the library, and patrons not affiliated with UF may request temporary access. In addition, seating and study space accommodating up to 870 patrons is available across three floors, including 32 study rooms for individuals and
groups. The HSC Library in Gainesville is typically open 95 hours per week and averages approximately 32,000 visitors per month. Additionally, the library’s second floor is accessible 24/7 to registered users from the Health Science Center colleges. Reference assistance and search help are provided directly at the Information Desk and through referral to liaison librarians.

Since 1999, the HSC Libraries have operated a liaison librarian program to facilitate partnerships with academic faculty and programs by assigning each HSC college or department a dedicated librarian who works closely with its faculty, staff, and students. Library services include reference assistance, literature searching (including support of systematic reviews), course-integrated instruction and library workshops, circulation, document delivery, interlibrary loan, photocopy services, course reserves, locker check-out, and 3D printing. Access to electronic databases, books, and journals is available onsite and remotely to the UF community. The HSC Libraries’ collection is comprised of electronic and print resources including reference materials, journals, books, and audiovisuals. As of June 30, 2016 the Libraries’ collection totaled 143,543 unique monograph titles (books), 14,322 serial titles (journals), and 355 databases. The libraries have 292,041 print volumes with 178,926 available for immediate access, and 113,115 housed in a remote storage facility. HSC Libraries’ users also have access to the full resources of the broader George A. Smathers Libraries: over 5,000,000 print volumes, 1,000,000 e-books, 8,100,000 microfilms, 170,500 full-text print and electronic journals, nearly 1,000 electronic databases, 1,300,000 documents and 1,000,000 maps and images.

**Research Computing** Established in 2011, UFIT Research Computing has a permanent staff of 12 FTE. Research Computing runs UF’s supercomputer called HiPerGator with about 50,000 cores and 3 PetaBytes of fast storage for large data sets. Researchers can store or generate and then efficiently analyze large amounts of data on HiPerGator.

The basic operating system is Linux and a wide variety of open source, licensed, and developmental software is available on the system. Interactive sessions for development and for running software that requires a GUI are available. Some projects make data stored on HiPerGator available to their research community over UF’s 100 Gigabit per second Internet connection. Faculty who want to use high-performance computing or data analytics in their courses can arrange access for their classes.

Research computing also operates two computing environments for research on restricted data. One system, ResShield is FISMA moderate compliant. The other system ResVault is HIPAA compliant.

Eleven universities in the state have joined forces in the Sunshine State Education & Research Computing Alliance (SSERCA) to build a robust cyber infrastructure to share expertise and resources. This includes the SSERCA cluster which allows researchers at FIU, FSU, USF and UF to share data and work on data collaboratively. The Florida Lambda Rail (FLR) provides the underlying fiber optic network and network connectivity between these institutions and many others.

More details on Research Computing facilities and services can be found on the website at [https://www.rcufl.edu](https://www.rcufl.edu).

**Human Applications Laboratory Manufacturing Facility** The Human Applications Laboratory (HAL) Manufacturing Facility for the production of cellular therapy products recombinant viral vectors is located on the 5th floor of the McKnight Brain Institute. The production facility occupies approximately 1900 square feet and consists of two suites with a total of 14 separate rooms. Each suite is designed to function independently of the other and is comprised of two production rooms (Class 10,000), a staging and storage area (Class 10,000) and entrance and exit vestibules (Class 100,000). Production Suite A is designated for cell processing and cellular therapy production. No viral production occurs in this suite. The suite occupies approximately 700 square feet and has a positive differential pressure relative to the adjacent rooms. Production Suite B is approximately 1200 square feet and has positive pressure differential relative to adjacent rooms and is used for the purification, filtration and aseptic fill of recombinant viral vectors.
The Quality Control Lab operates according to controlled, issued standard operating procedures including sample submission and tracking procedures, reagent receipt and tracking, and equipment operation, cleaning, calibration, and maintenance. Assays are performed using controlled documents called test records. These records are numbered to ensure appropriate documentation of all assays performed on product and product intermediates. In addition, the Lab is responsible for submitting all samples to contract laboratories for testing and for reviewing and reporting these results. All in-house reagents are prepared and documented using controlled reagent preparation records.

HAL Quality Management has developed appropriate quality systems to help assure the quality and safety of the clinical materials produced and tested by the Human Applications Laboratory. Additionally, all test results (both in-house and contract laboratory results), equipment records, reagent preparation records are audited by independent Quality Assurance. The Quality Assurance Unit (CTSI-QA) was established at the College of Medicine to support the Powell Gene Therapy Center in June 2001. It was transferred to the UF Clinical and Translational Science Institute (CTSI) in 2010. CTSI-QA reports directly to the Director of CTSI Research Services.

Since commissioning in 2002, HAL has manufactured GMP clinical trials materials for nine gene therapy related Investigational New Drug (IND) projects and two cellular therapy IND projects. The group specializing in the development of new process and testing, deployment for use in the GMP Manufacturing Facility or QC Laboratory, execution of GMP manufacturing and testing and ongoing product stability testing.

**Informatics Institute** Information technology provides remarkable opportunities to create, collect, compute, and communicate huge quantities of data. Future research in a host of fields will depend on the ability to leverage access to these massive and complex data sets. One key application of these concepts in the future of health care is predicting disease and designing personalized treatments from a person’s genetic code.

To meet these challenges and create a campus-wide presence that is identifiable both internally and externally, the university has created the Informatics Institute (UFII) as a part of the UF Rising preeminence initiative. Its purpose is to facilitate leading edge informatics research in all sectors of the campus. The institute reports to the UF Vice President for Research.

The Informatics Institute consists of four interrelated thrust areas. Informatics Techniques and Technologies performs research into the hardware, software, algorithms, and mathematical approaches needed to develop the next generation techniques and technologies for Big Data. Biomedical and Life Science Informatics utilizes informatics to address the fundamental questions in genetics, genomics, biodiversity, environment, and agricultural science as well as its application for improved human health outcomes. Informatics for Engineered Systems and the Physical Sciences studies the application of intense computation and complex informatics to understanding and designing complex engineered systems, and for uncovering the fundamental nature of our physical world and universe. Informatics in Social Science, Humanities and Education addresses leveraging the explosion of data in understanding people, culture, political development, education, and human behavior.

Since its inception in August 2013, the UFII has successfully launched a seed funding program and a seminar series. Six teams of researchers were the recipients of the first round of seed funds. All the funded grants were characterized by interdisciplinary research relevant to the mission of the UFII. The UFII will also sponsor several educational programs starting in Fall 2015. Dr. George Michailidis was recently recruited to be the director of the institute.

**Institute for Child Health Policy** (ICHP) brings together multidisciplinary faculty from UF to conduct innovative and rigorous science to promote the health of children, adolescents, and young adults. ICHP, housed within the department of Health Outcomes and Policy in the College of Medicine at UF, has a 25-year history of collaborating with teams of researchers across the UF campus and with scientists nationally. Within UF and nationally, there is an emphasis on early childhood interventions, child health outcomes, and a research infrastructure to support pragmatic clinical trials and implementation science studies in community settings. ICHP has had success over the past 15 years of developing innovative methods for using big data in support of
examining child health outcomes. In addition, ICHP is leading the development of the OneFlorida Child Health Alliance and pediatric components of the OneFlorida Data Trust, which houses linked health care claims, vital statistics, immunization, electronic health record, environmental, geographic, and parent- and child-reported outcomes data for approximately 4 million children in Florida. Having served as infrastructure support in launching the OneFlorida Data Trust, ICHP is facilitating child health research that is funded by NIH, AHRQ, and the Patient-Centered Outcomes Research Institute.

Institute of Food and Agricultural Sciences  The UF Institute of Food and Agricultural Sciences (UF/IFAS) is an integrated unit with missions dedicated to teaching, research, and outreach. The research mission is pursued through the Florida Agricultural Experiment Station, where faculty conduct cutting-edge research in agriculture, natural resources, and life sciences through the Florida Agricultural Experiment Station in order to facilitate solutions in Florida, the country, and the world.

UF/IFAS conducts groundbreaking research in program areas vital to people and the environment such as sustainability, energy, climate change, water, food systems and human health, ecosystem health and services, and resource production. With nearly 500 faculty members with research appointments in 15 academic departments, UF/IFAS research is robust across disciplines. UF/IFAS scientists collaborate among departments and fields and with researchers at other UF colleges and institutions in the United States and abroad to address key issues in agriculture and natural resources.

UF/IFAS research is located throughout Florida, including 12 research and education centers, four research and demonstration sites, a research forest, a biological field station, and a tropical fish hatchery. UF/IFAS has 10 members in the American Association for the Advancement of Science and three members in the National Academy of Sciences. UF/IFAS researchers receive more than $100M in contracts and grants annually.

The diversity and complexity of UF/IFAS research projects are astounding, from studying waterways in Florida’s backyard to researching how microbes grow on Mars. Among many other topics, UF/IFAS research projects encompass topics such as how to are contributing knowledge that will help breed tastier tomatoes, combat citrus greening, produce more efficient biofuels, create better pine forest management techniques, discover linkages between digestive tract bacteria and Type 1 diabetes, and grow rice in aerobic conditions using less water.

Institute on Aging  The Institute on Aging (IOA) exists to improve the health, independence, and quality of life of older adults by means of interdisciplinary teams in the areas of research, education, and health care. The overarching goal of the IOA is to develop interdisciplinary and dynamic research that spans public health, social, health services, behavioral, clinical, and basic sciences. The research focuses on mechanisms, etiology, and prevention of cognitive and physical disability. The IOA also focuses on maximizing the participation and life potential of older adults with disability and prevention of secondary disabilities.

The IOA is headquartered in the Clinical and Translational Research Building, a 120K square foot research complex. IOA clinical research facilities include office space, conference rooms, nine patient exam rooms, specimen processing area, a DEXA machine, and a GAITRite walkway.

The research program of the IOA focuses on the etiology and prevention of cognitive and physical disability. This focus is pursued using an interdisciplinary approach that traverses the entire spectrum of social and biomedical investigation, including molecular biology, in vitro and animal studies, clinical research, behavioral and social sciences, epidemiology, and health services research. The IOA initiated its major development phase in February 2005 with the creation of the new Department of Aging and Geriatric Research. The department serves as support infrastructure for the IOA and academic home for faculty members from diverse disciplines who wish to pursue a career primarily focused on research and education on aging.

Institutional Review Boards  In total, the Institutional Review Boards (IRBs) at UF oversee nearly 5,000 research protocols. There are three on-campus IRBs and one contracted IRB. IRB-01reviews and oversees biomedical research conducted under UF Health Gainesville (including all of the hospitals and facilities owned
by UF Health), the University of Florida campus, and for the North Florida/South Georgia Veteran’s Health System (NF/SG VHS). IRB-03 reviews and oversees biomedical research on the Jacksonville, Florida campus. IRB-02 reviews and oversees social and behavioral research on the Gainesville, Florida campus. In 1999, UF contracted with the Western IRB (WIRB) to offset some of the workload for IRB-01. UF faculty conducting multicenter drug or device protocols sponsored by industry are able to submit their protocols for review by the WIRB. Annually, WIRB reviews an average of 110 protocols a year.

Seventeen staff members at the three on-campus IRB offices provide investigator education, protocol design consultation as it relates to regulatory considerations, and compliance monitoring. No human subject protections issues have been identified during recent FDA audits, CTSI competitive grant renewal reviews, or AHCA VA licensure accreditation surveys. In conjunction with the CTSI, IRB-01 has developed a OneFlorida IRB which serves as the single IRB for all OneFlorida Clinical Research Consortium members. The IRB also supports single and central IRB functions for multicenter studies.

All IRB-01, 02, and 03 new study submissions are made through the electronic myIRB program, which has been updated to meet AAHRPP requirements. IRB-01 and IRB -03 meets twice a month; IRB-02 meets once a month and investigators are encouraged to attend to provide clarification and answer reviewer questions during the meetings to facilitate rapid turnaround time. A robust IRB website is available for investigators, which provides them with IRB guidelines, all current forms, educational bulletins, required standard language, and links to frequently used web sites.

IRB-01 also serves as the Privacy Board for UF Gainesville Campus and the NF/SG VHS in accordance with the Health Insurance Portability and Accountability Act (HIPAA) and implementing its regulations. All waivers and any other HIPAA-related issues are provided as part of the IRB review.

**Interdisciplinary Center for Biotechnology Research**  The Interdisciplinary Center for Biotechnology Research (ICBR) is the major biotechnology science and instrumentation service provider at UF. Established in 1987 and leveraging strong state and University support, ICBR maintains a reputation for acquiring, housing, and providing access to state-of-the-art instrumentation and advanced biotechnology services to all researchers at UF.

ICBR is organized into Core facilities offering extensive services ranging from visualizing microscopic structures to producing and analyzing small molecules and big data. ICBR also supports the education mission of the University with hands-on workshops, training, and seminars hosted by the core scientists. Most ICBR Core facilities are concentrated in 25k square feet of the Cancer and Genetics Research Complex with auxiliary laboratories in the Microbiology and Cell Science building and the McKnight Brain Institute. While highly centered on its more than $20M stable of instrumentation technologies, ICBR is devoted to engaged scientific services that are provided by 22 PhD-level scientists and 25 trained staff with more than 500 combined years of experience in molecular and cellular biology science. This provides UF researchers with access to both technical expertise and advanced instrumentation as well as informed interpretation of the resulting data with a concept-to-data workflow that enables scientists to actively propose, develop, and engage in advanced technologies, extending the scope of their individual laboratories ICBR organizational structure includes a center director who receives advice on core operations and direction from UF administration, especially through established faculty advisory groups that meet annually or biennially. ICBR organizational infrastructure provides its facilities with full administrative support for human resources, billing/payables, and compliance with federal cost standards. In addition, ICBR cyber infrastructure supports the scientific cores with computational capabilities for cutting edge analysis, data security, and data delivery to and through the high speed Campus Research Network.

The laboratory infrastructure and established research support programs at ICBR are recognized for providing the theoretical knowledge and practical expertise that make the instruments run at optimal capacity and at the limit of their expected sensitivities. These facilities are universally recognized for providing equal and fair access at low cost as well as for their commitment to excellence. It is the commitment of ICBR to support and maintain current and future instrumentation for its lifetime and to ensure highest performance and availability to
all interested researchers according to a well-developed usage plan while charging fees to cover disposable or consumable reagents or components.

Interdisciplinary Program in Biomedical Sciences  The Interdisciplinary Program in Biomedical Sciences is a predoctoral educational experience that trains experimentalists and scholars for a wide range of careers in biomedical science. The curriculum is designed to provide maximum flexibility for the training of biomedical research scientists. The educational goals are to promote biological literacy by providing core and advanced curricula covering key chemical, biological, and genetic principles using molecular, cellular, and physiological approaches; and to promote scholarship in biomedical science through mentored, original research.

Jacksonville Health Equity Research Organization  Jacksonville Health Equity Research Organization's (JaxHERO) is a primary care practice-based research network that conducts community-based research in order to improve the quality of care and promote health equity for persons living in Northeast Florida and Southeast Georgia. JaxHERO is composed of 33 primary care centers from UF Health Jacksonville, 12 primary care centers from the Florida Department of Health –Duval, Mayo Clinic Jacksonville and the St. Vincent’s Family Residency program. This network of primary care centers serves more than 150K patients in five counties (Duval, Baker, Clay, Charlton GA, Camden GA), many of whom are disproportionately minority and poor with high rates of diabetes, hypertension, cancer and other conditions. This network is currently fielding or developing four investigator-initiated studies. JaxHERO administration and activities is supported by faculty and staff from the Center for Health Equity and Quality Research at the University of Florida College of Medicine – Jacksonville. JaxHERO provides the foundation for translational and evidence-based research focused on studying and reducing health disparities while building on institutional commitments to the underserved population. The Jacksonville Health Equity Research Organization enables the conduct of translational research in a wide range of settings, thereby bringing the benefits of medical innovation to our entire community.

Junior Honors Medical Program  The Junior Honors Medical Program (JHMP) is an accelerated, seven-year BS/MD program offered by UF. Admission is open to all possible candidates who are United States citizens or permanent residents. The program is intended for undergraduate students who have demonstrated superior scholastic ability and personal development during their first two academic years of enrollment at a four-year accredited science degree-granting institution and who are dedicated to pursuing medicine as a career. When accepted to this program, students secure places in medical school at the UF College of Medicine as long as they complete JHMP requirements and maintain academic standards. This program has two pathways: biomedical sciences for individuals with a primary focus on pursuing academic careers in medicine; and Rural and Urban Underserved Medicine (RUUM) for individuals with a primary focus on careers serving urban, rural, and medically underserved populations.

Major Analytical Instrumentation Center & Particle Analysis Instrumentation Center  The Major Analytical Instrumentation Center (MAIC), the Particle Analysis Instrumentation Center (PAIC), and the Nanoscale Research Facility (NRF) comprise the Research Service Centers (RSC) in the Herbert Wertheim College of Engineering. These are multiuser materials characterization, fabrication, and analysis facilities that provide service to all faculty and students at UF, research universities, and the industrial and commercial community. These facilities have provided teaching, training, and services for more than 30 years together and continue to be the largest and most successful hands-on, multiuser facilities at UF.

McKnight Brain Institute  The McKnight Brain Institute (MBI) at UF is one of the nation’s most comprehensive and technologically advanced research and teaching centers, conducting integrated research in neuroscience, neurology, neurosurgery, psychiatry, cognitive science, and related areas. To aid research in these areas, the MBI operates several facilities that provide advanced (up to 17.5 tesla) magnetic resonance imaging and spectroscopy, cell and tissue analysis, flow cytometry, brain tissue banking, gene therapy, and more. The MBI has 300 faculty from 51 academic departments and 10 colleges, entailing research and educational programs in nearly all aspects of basic, clinical, and translational neuroscience. The College of Medicine departments of Neuroscience, Neurology, Neurosurgery, and Psychiatry along with the centers for Smell and Taste, Structural Biology, and Addiction Research and Education are housed together in the MBI to
promote numerous interdisciplinary programs and projects, including facilitating more than 320 lectures and seminars each year involving the best scientists from around the globe. Many of these take place in the Lauretta & John DeWeese Auditorium, which offers over 2,300 square feet of space and stadium seating for 162, including wheelchair accommodations. Featuring a 10-foot by 15-foot screen, this room offers high definition video conferencing as well as live web-streaming and archival of lectures.

The MBI develops new therapies for nervous system afflictions. Some of the research initiatives comprising the MBI are the Advanced Magnetic Resonance Imaging and Spectroscopy Facility (AMRIS), the Cell and Tissue Analysis Core (CTAC) and CTAC Histology Resource Center, the Radiosurgery/Biology Research Lab, the Movement Disorders Center, the Age-related Memory Loss (ARML) Program, the Brain and Spinal Cord Injury/Stroke Program, and the Addiction Program. With a design theme of beyond the-state-of-the-art, the conceptual mission of the extramurally funded, $60M, 210K square foot MBI building is to serve as a catalyst and focal point for widely diverse but synergistic multidisciplinary research programs. Thus, in addition to an obvious emphasis on high technology, the strategic design of the MBI includes a strong emphasis on multiuser facilities within a research and clinical setting that includes highly dedicated and gifted basic science and clinical researchers.

**MD-PhD Training Program** The MD-PhD program trains clinician-scientists for a career in academic medicine with the full expectation that these students will become future leaders at academic medical centers worldwide. The MD-PhD program takes a broad view toward the development of the entire spectrum of skill sets necessary to complete the “clinical translational mission” and essential for closing the gap in health disparities. Consequently, MD-PhD students are currently enrolled in four different colleges (Engineering, Health Professions, Medicine, and Pharmacy) for their graduate work.

The MD-PhD Training Program office, totaling 301 square feet, is located on the first floor of the Medical Science Building (MSB) and consists of a two-room suite that includes a conference space. It is adjacent to the Medical Admissions Office and directly across from the Office of Research Affairs of the College of Medicine. The program has ready access to conference rooms in the Department of Ophthalmology and the McKnight Brain Institute. The MD-PhD Training Program’s location within the College of Medicine provides scholars with access to a broad array of medical experts and allows it access to eight full-time faculty (executive committee members) to provide leadership in mentor selection, program policy assessment and MD-PhD candidate evaluations.

**Network for Pancreatic Organ Donors with Diabetes** The UF is the primary coordinating center for the JDRF (formally known as Juvenile Diabetes Research Foundation) Network for Pancreatic Organ Donors with Diabetes (nPOD), a Type 1 diabetes research project dedicated to study of the human pancreas. JDRF-nPOD supports scientific investigators worldwide by providing, without cost, rare and difficult to obtain human tissues beneficial to their research. nPOD has been supporting more than 170 research studies at several U.S. medical institutes and 19 countries. The JDRF provides nearly $3M annually in grant funding for nPOD-related studies. Projects have a broad scope including, but not limited to the immunopathology of T1D; beta cell physiology and dysfunction; pancreas development; beta cell regeneration; trans-differentiation and dedifferentiation; and environmental factors and imaging.

The main goals of nPOD are to obtain specimens from organ donors with T1D, (diagnosed or subclinical), and establish a research resource of pancreas and disease-relevant tissues, i.e. pancreatic lymph nodes, spleen, thymus, blood, and other tissues, from organ donors with T1D obtained at any point after clinical diagnosis or during the pre-diabetes phase when islet autoimmunity leads to beta cell destruction (donors identified by screening for islet autoantibodies); to distribute specimens to JDRF-nPOD scientists anywhere in the world for comprehensive and diversified investigations of human T1D; and to promote collaboration by using tissue and real-time data sharing, by developing and managing synergistic project interactions, as well as focused working groups in order to facilitate a comprehensive understanding of human T1D.

**Office of Medical Education** The College of Medicine Education Center serves several functions in the College of Medicine, including the coordination of all teaching activities as well as the selection and scheduling.
of the senior elective courses and clerkships for all four years of medical school. The office is responsible for the preparation of course syllabi, handouts and examinations. Information provided by course directors may be distributed during classes or through this office. Students may come to this office any time they have questions on any course materials. The office coordinates the evaluation of courses, faculty, and teaching programs within the College of Medicine. Office personnel compile and summarize data on the teaching programs including course and faculty evaluations. Course debriefings are also scheduled and conducted through this office. The debriefings are meetings held at the end of courses in which student representatives meet with course faculty and representatives of the College of Medicine Curriculum Committee and Dean’s Office. The sessions provide an opportunity for students to provide feedback and influence the future planning of the course as the strengths and weaknesses of each course are discussed. The Office of Medical Education coordinates the advisor program. Advisors are assigned through the office. They are then informed of students’ progress in academic course work. Any issues associated with the advisor program are also reported to this office.

**Office of Research** The University of Florida accounts for about 40 percent of sponsored research performed in the State University System of Florida. In FY2016, annual sponsored awards to UF exceeded $724 million. During the last 20 years, annual research funding to UF has grown more than 250 percent, consistently placing UF among the top 20 public research institutions. Led by Dr. David Norton, Vice President for Research, the Office of Research is committed to being a highly valued and effective organization whose leadership and service make UF’s vision of being a top 10 university a reality.

The Office of Research is committed to providing necessary institutional leadership, infrastructure and service, ensuring accountability to regulatory agencies and stakeholders, and investing toward future opportunities and challenges. The Office of Research is responsible for all proposal submissions, grant and contract negotiation and acceptances, and the execution of other research-related agreements. The Office of Research also manages and supports all research compliance obligations related to fiscal, human subject, animal use, export control, conflict of interest, responsible conduct of research, and research misconduct. The Office of Research invests in research programs by providing resources and overseeing internally funded seed programs and initiatives. The Office of Research is also responsible for financial monitoring, invoicing, reporting, and collections and provides general guidance related to award management.

Support for faculty also includes identifying external funding opportunities, facilitating industry outreach, supporting complex proposal development, and connecting researchers to funding agencies. Through the resources and infrastructure within the UF Research Foundation and Office of Technology Licensing, the Office of Research facilitates technology transfer and economic development through patenting, licensing, startups, and business incubation. In the past 15 years, UF has launched 193 biomedical and technology startups, generating more than $1 billion in private investment. In 2016, UF received 311 invention disclosures on $724 million in UF research, signed 122 licenses and options, and launched 17 companies. In addition, the Clinical and Translational Science Institutes targets the translation of basic research into health care outcomes. The Office of Research manages research-centric shared resources that include Animal Care Services, the Interdisciplinary Center for Biotechnology Research, and various interdisciplinary centers and institutes whose cross-disciplinary missions include genetics, water, climate, informatics, smell and taste, and emerging pathogens. The Office of Research Communications uses the full spectrum of traditional and emerging communications tools to share the world-class research and scholarship being conducted at the University of Florida with the widest possible audience.

**UF’s Office of Technology Licensing (OTL)** consistently ranks among the top universities for startup launches and licensing. In the past 15 years, UF OTL has launched 193 biomedical and technology startups, generating more than $1 billion in private investment. In fiscal year 2015-16, OTL received 311 invention disclosures on $724 million in UF research, signed 122 licenses and options, and launched 17 companies. This is a testament to the collaborative relationship between UF’s world-renowned faculty and OTL working to bring together the elements necessary to create successful startups. Additional information about OTL as well as resources for faculty, industry, investors and entrepreneurs can be found on OTL’s website (http://research.ufl.edu/otl/).
Pain Research and Intervention Center of Excellence (PRICE) The UF Pain Research and Intervention Center of Excellence (PRICE), a multi-college center of excellence, serves as the professional home for UF scientists, clinicians and trainees dedicated to improved understanding and treatment of pain. PRICE is affiliated with and supported by the CTSI and receives strong support from the UF Institute on Aging and the UF Health Cancer Center. PRICE consists of more than 20 extramurally-funded investigators pursuing a broad range of studies. PRICE provides member investigators with several resources and services in order to facilitate clinical and translational pain research at UF.

PRICE maintains a registry of more than 1K potential research participants who have expressed interest in research participation and have provided permission for future contact. This registry includes individuals from several different patient populations as well as those who are generally healthy and can serve as control subjects. The registry is comprised of an ethnically diverse group of individuals between 18 and 85 years of age who were recruited via multiple methods, including print, radio and electronic advertisements, clinic-based recruitment, and word of mouth.

PRICE offers facilities and services to assist investigators with collection of pain assessment data in their research protocols via the Pain Clinical Research Unit (Pain CRU). The Pain CRU’s primary facility consists of four examination rooms located in the CTSI Clinical Research Center in the north wing of the Clinical and Translational Research Building (CTRB). Satellite locations of the Pain CRU are available on the second floor of the Dental Tower at the UF Health Science Center and in the Institute on Aging Geriatric Clinical Research Facility. Altogether, the Pain CRU comprises nine fully equipped quantitative sensory testing (QST) units and several flexible-use examination rooms. The Pain CRU is staffed by well-trained research staff, including an advanced registered nurse practitioner, a phlebotomy-trained research coordinator, a lab manager, multiple research technicians and numerous trainees, including undergraduate, graduate and professional students, post- doctoral fellows and junior faculty members. Investigators can conduct their own studies in the Pain CRU or request that the Pain CRU staff collect the data for their protocol. In addition, PRICE coordinates training activities related to pain, including our T32 training grant in translational pain research, as well as journal clubs, seminar series and a monthly Pain Interest Group.

In early 2013, PRICE occupied its physical home in the new Clinical and Translational Research Building (CTRB), a state-of-the-art research building that serves as the home for clinical and translational research at the UF. The CTRB provides offices for the PRICE director and program manager as well as the director of the Pain Clinical Research Unit and several PRICE research staff members.

Powell Gene Therapy Center The Powell Gene Therapy Center’s (PGTC) mission is to provide institutional and external investigators with the expertise to support preclinical and clinical studies in gene therapy with an emphasis on the development of translatable protocols to facilitate clinical trials initiation. The Center has three components; the Vector Core, the Human Applications Laboratory and the Toxicology Core.

The Vector Core, located in the Academic Research Building (ARB) and operated as an auxiliary, performs up to 400 research and GLP-grade rAAV preparations per year for individual investigators and program grants. Research-grade preparations support both in vitro and in vivo pilot phase studies for proof of principle. An important research activity is dedicated to process and development of novel production and purification methods. Working together with the Human Applications Laboratory, methods are developed as translatable platforms in compliance with cGMP.

The Human Applications Laboratory, located in the McKnight Brain Institute (MBI), manufactures and releases clinical grade rAAV products and cell vaccines with a current track record of eight manufacturing campaigns for phase I/II trials. The production facility occupies approximately 1,900 square feet and consists of two suites designed to function independently. Production Suite A is dedicated to cell processing, cell banks and cell-based vaccines. Production Suite B is used for the purification, filtration and aseptic fill of viral vectors. The Quality Control Laboratory within the HAL operates independently and conducts product release testing and environmental monitoring. An independent Quality Assurance Unit of the CTSI oversees raw material as well
as in-process and final product lot release with audits and inspections of all procedures.

The Toxicology Core conducts exhaustive FDA-reviewed GLP toxicology and bio-distribution studies for IND submission as well as intermediate proof of concept studies. It often operates in coordination with the Vector Core and HAL. To date, the core has contributed to the initiation of 14 clinical trials in man.

Sid Martin Biotechnology Institute. The UF Sid Martin Biotechnology Institute (SMBI) expedites research and commercial development of promising biotechnologies in the context of viable, well-managed startup companies. The incubator has specialized complex, with BSL II labs, offices, vivariums, greenhouses, and $1.2M of shared scientific equipment is twenty minutes from the UF campus in Progress Park, in the city of Alachua, which is home to many of UF’s bioscience startups. Companies in this 204-acre private park may apply for Foreign Trade Zone status. The incubator’s relationships, services, and programs include introductions to investors, early recruitment of experienced leadership, networking opportunities, and seminars. By bringing together a critical mass of university and private sector specialists, the program is a magnet for scientific expertise, novel problem solving, and successful commercial ventures. The program is particularly interested in supporting companies, which have established research relationships with the UF, or which have an interest in and potential for initiating such relationships. To date, companies have attracted over $1.6B in funding. The Sid Martin Advisory Committee and program management grant companies that successfully apply for admission one-year terms with the chance of renewal subject to successful reviews. In 2009, SMBI developed the Florida BioDatabase, an online searchable database of all Florida bioscience companies, available to the public. The site provides address, website, founding date, a summary of a company’s technology, sector, research focus, whether they have products on the market, and publicly disclosed investors. SMBI has served over 70+ companies and 78% of SMBI companies are still in business 5 years post-graduation.

Southeast Center for Research to Reduce Disparities in Oral Health The Southeast Center for Research to Reduce Disparities in Oral Health (SCRRDOH) is a multidisciplinary center at the UF College of Dentistry that aims to reduce disparities in oral health among Florida’s rural populations through community-based research and intervention projects. CRRDOH projects are based on community participation combined with the best science available. Local residents are involved in all phases of research projects, from designing projects to collecting data to publicizing results and influencing public policy.

UF Center for HIV/AIDS Research, Education & Service (UF CARES) The UF Center for HIV/AIDS Research, Education & Service (UF CARES) is the only comprehensive pediatric and family-focused HIV and AIDS program in Northeast Florida and South Georgia. At UF CARES Rainbow Center (located on the third floor of UF Health Jacksonville’s Clinical Center building), clinicians provide primary, secondary, and tertiary care for HIV- exposed and infected individuals and families. In addition to basic medical care, the center provides medical case management, pharmacy services, health education, nutrition, and mental health counseling. UF CARES doctors are trained in general pediatrics and internal medicine with additional specialization in infectious diseases and women’s health. UF CARES employs a full time psychologist and part time psychiatrist and gynecologist who provide specialty services. UF CARES also works to provide services through collaborations and partnerships with Children’s Medical Services, a state sponsored program to provide health care to low income children with special needs.

In the last five years, the center has conducted 23 NIH-sponsored clinical trials, 11 pharmaceutical-sponsored studies and several investigator studies, serving more than 900 research subjects. The center actively collaborates with the Department of Obstetrics and Gynecology in Jacksonville and colleges of Medicine, Public Health and Health Professions, Veterinary Medicine, and Emerging Pathogens Institute in Gainesville. UF CARES is part of the AHRQ registered Community Based Research Network and collaborates with Investigators in Gainesville and Jacksonville.

UF Center for Pharmacogenomics (UFCPGx) has 1843 sq ft of renovated laboratory space (four laboratories) in the UF Health Sciences Center. The laboratories are divided based on workflow and for

5/25/17
reasons of quality control. The Pre-PCR laboratory contains three Laminar flow hoods, a refrigerator, a -20°C freezer and a computer. The PCR laboratory contains one Labconco Purifier Filtered PCR Enclosure, four Applied Biosystems (ABI) Verti fast Thermal Cyclers and one ABI GeneAmp 9700 PCR System Thermal Cycler, which can accept single tubes, 96-well plates or 384-well plates. It also contains QIAGEN QIAcube Automated RNA, DNA and Protein isolation instrument, a 96 and 384-well plate centrifuge, and 2 Eppendorf liquid handling/sample processing robots (Eppendorf epMotion 5070, and Eppendorf epMotion 5070 PC 96 qPCR system large robot). The clinical sample processing and DNA isolation laboratory has a 96 and 384-well plate reader (Bio-TEK Synergy HT), Li-COR ODYSSEY CLx Infrared Imaging System, NanoDrop (ND-1000) Spectrophotometer, NanoDrop (ND-2000) Spectrophotometer BioRad Criterion™ Protein Gel System and Blotter, BioRad large Protein Gel System, BioRad Gel Documentation System (Bio-Rad Gel Doc XR System PC), digital camera, Micro hybridization oven, UV lightbox, and Gel dryer. Another laboratory is an analytical laboratory which contains extensive analytical equipment including 2 Transilluminators, 3 Vertical Gel Electrophoresis Systems, 10 Horizontal Electrophoresis Systems, 2 autosamplers, 6 Multichannel Pipetters, and a pH Meter. General equipment shared between the labs includes a variable speed refrigerated centrifuge, variable and fixed speed Microcentrifuges, 2 variable speed non-refrigerated centrifuges, one 96 and 384-well plate centrifuge, a liquid nitrogen system, a controlled water bath, microwave oven, and three computers. The analytical and genotyping laboratory is the largest laboratory and contains the major genotyping systems, including 2 LifeTechnologies QuantStudio TaqMan-Based OpenArray Multiplex Genotyping Systems and Pyrosequencing high-throughput genotyping system (PSQ HS 96). Another lab provides work space with three computers and an office for the laboratory manager. Labs are equipped with refrigerators, centrifuges (Eppendorf Microcentrifuge 5418 R, 5415 R, and Eppendorf Benchtop 5810 R centrifuge, and DAMON-IEC CRU-500 centrifuge), and standard lab equipment such as pipettors, glassware, etc. Departmental shared space includes a freezer room, which contains additional freezers including five – 80°C freezer and five –20°C freezers. The labs have 15 personal computers and 4 printers. The lab system is comprised of Enterprise class Linux RHEL 6.5 and Microsoft Window server 2008. User level files are stored on two Dell R710 servers running Windows Server 2008 R2 Enterprise utilizing Distributed File System for redundancy. The labs’ web-based Information services are running on Linux based Apache 2.4 servers running in a VMWare ESXi cluster utilizing 6 Dell R710s. The backend database is running on a Dell R620 using a Linux based MySQL. All differential backups are performed to disk storage nightly Monday through Thursday with a full backup running on Friday. Differentials and Full backups are kept on disk storage for 90 days with a copy of the latest full backup put on Tape monthly and moved to offsite storage.

UF Genetics Institute

The UF Genetics Institute (UFGI) promotes genetics and genomics at the UF by building community, facilitating collaboration and creating opportunities for intellectual exchanges among investigators working in diverse taxonomic systems but with a common set of approaches in genetics and genomics; supporting recruitment and retention of outstanding faculty in the areas of genetics and genomics; supporting graduate education in the areas of genetics and genomics; and enhancing the ability of researchers at the UF to compete for multidisciplinary research grants in the area of genetics and genomics.

More than 240 UFGI faculty members represent seven different colleges and 49 different academic departments. Their research spans a broad array of organisms from prokaryotes to eukaryotes and a diverse collection of disciplines and approaches from strictly computational to laboratory and field studies. The UFGI occupies one wing (approximately 60K square feet) of the Cancer & Genetics Research Complex, completed in 2006. Thirty-three UFGI faculty members are housed in UFGI space, which provides a variety of shared equipment for molecular biology, biochemistry and genetics, as well as shared resources such as animal facilities, grow chambers for controlled environmental studies of plants, and a greenhouse facility.

UF Health Cancer Center

The UF Health Cancer Center (UFHCC consists of more than 250 researchers and clinicians drawn from two campuses, 12 colleges, 72 departments, two major teaching hospitals (UF Health Hospital in Gainesville and Shands Jacksonville and the nation’s largest Veterans Administration hospital, the Malcom Randall VA Medical Center in Gainesville). The UFHCC is dedicated to providing state-of-the-art cancer treatment, prevention, control, and education to individuals of diverse races and ethnicities; conducting original scientific research aimed at discovering and comparing mechanisms of cancer-causing and normal cell growth; and fostering coordination and collaboration that facilitates clinical translation of novel research
findings into new therapeutic, diagnostic or preventive trials.

The cancer research building houses laboratories for approximately 30 PIs and is equipped with workbenches, shelves, sinks, centrifuges, refrigerators, -20°C and -80°C freezers, tissue culture hoods, tissue culture incubators, water baths, micro-osmometers, light microscopes, power supplies, electrophoresis apparatuses, PCR machines, real-time PCR machines, and flow cytometers. Laboratories provide technical expertise and advice in the areas of FACS analysis, protein sequencing, peptide synthesis, oligonucleotide synthesis, proteomics, mass spectrometry, transgenic mouse production, and gene expression. Each floor in these facilities has an autoclave, dark room, library, small and large conference rooms, and walk-in cold and warm rooms. The molecular laboratory for the UF Interdisciplinary Center for Biotechnology Research (ICBR) is in the research building and is available to all UFHCC members. The ICBR houses 12 partially subsidized facilities, including computing and bioinformatics, DNA sequencing, electron and confocal microscopy, flow cytometry, hybridoma production, protein chemistry, proteomics, mass spectrometry, microarray, and bioinformatics labs. The building also includes a vivarium on the fifth floor and has all the facilities necessary for animal care, procedures and irradiation. The UFHCC Research Laboratories and the ICBR are accredited by the American Association for the Accreditation of Laboratory Animal Care.

Three cesium-137 irradiators are available for total body or local irradiation of mice, with one located in the animal vivarium on the fifth floor of the CGRC and two located in the main animal facility which is in the Biomedical Sciences Building. The animal facility in the Biomedical Sciences Building also has an XRAD 320 X-ray source for small animal irradiation. A Varian Clinac 6/100C, located in Radiosurgery Biology Lab (RSB) in the McKnight Brain Institute, is dedicated for use with animal models (non-human use) and image-guided stereotactic radiosurgery procedures.

UF Health Communications  A division of 80 communication professionals, UF Health Communications provides integrated communications support to all UF Health executive and administrative divisions, colleges, institutes, physician practices, and hospitals. With staff in Gainesville and Jacksonville, UF Health Communications mobilizes expertise across six specialized teams to meet UF Health’s full scope of internal and external communications needs. The Strategic Communications & Public Affairs team, which includes the CTSI strategic communications team, is responsible for strategic communications and public relations planning and execution; internal communications and employee-focused events; corporate communications; public affairs and government relations/advocacy communications; community health outreach and education programming; and issues and crisis management. The Creative Services team provides print layout and graphic design, creative consultation, video and audio production, voiceovers, multimedia design (including 3D animation), digital publishing, and photography. The Marketing team provides strategic marketing services for UF Health’s clinical lines and affiliate and joint venture partnerships, including marketing consultation, marketing plan development and implementation, production of advertising campaigns and marketing collateral materials, and website content development. The Advancement Communications team provides strategic planning and execution for public functions, alumni relations, and fundraising initiatives. The News & Publications team maintains relationships with local, regional, and national news media and provides expertise in publications, editing, science writing, media training, and news dissemination. The Web Services team offers full-service website design and hosting, web application development, website refurbishment, usability testing, search engine optimization, analytics and metrics, social media consultation, and email newsletters. In addition, UF Health Communications has a long-standing collaboration with the UF College of Journalism and Communications to produce Health in a Heartbeat, a national consumer health radio program that airs on public radio affiliates in 18 states and in Washington, D.C. The program features two-minute segments providing the latest news on medical research, patient-care breakthroughs, and health-care trends.

UF Health Information Technology

Infrastructure
UF Health IT manages data center space in multiple facilities in both Gainesville and Jacksonville. The Gainesville data center space provides approximately 9,300 square feet to house computer systems and associated components. Additional space accommodates the mechanical, electrical, and physical infrastructure, including
electrical equipment, UPSs, air handlers (cooling), security (video and access controls), and fire detection and suppression systems. All systems supporting clinical, education, and research functions utilize the data center resources. A comprehensive set of services is available to customers, including, but not limited to, provision and management of physical and virtual servers, storage, backup and disaster recovery, desktop and mobile device support, security services, database management, and consulting on IT design, support, and costs. The HealthNet network engineering department operates a highly secure high-speed network that, in cooperation with Shands Hospital, supports more than 37K networked workstations, servers, communications devices, and peripherals. Connections are switched 10/100/1000 megabits per second with power over Ethernet (PoE). The HealthNet network has a redundant design at its core and monitoring commensurate with a network that enables technology in operating rooms, emergency rooms, and intensive care units. There is also wireless network coverage throughout all facilities to meet the needs of today’s academic healthcare institutions. The HealthNet network service has a self-sustaining funding model that assures technology refresh and modernization at regular intervals.

Customer Service
The Technical Support Center, Workstation and Device Support, Projects, Asset Management, and the Contact Center comprise Customer Services. These teams provide services to students, faculty, and staff in the clinical, research, educational, and administration areas throughout the Health Science Center in Gainesville and Jacksonville. These services include a walk-up support center during business hours, 24-hour phone support, remote trouble-shooting, consultation, and workspace support, such as moves, installations, upgrades, and repairs. The Projects team offers large-scale deployments and refresh projects to UF Health departments. The Asset Management team provides computing equipment and software quotes, asset tracking, image creation and standardization, and enterprise licensing management. The Contact Center provides 24/7 operator services, emergency and disaster dispatching, Life Quest organ offers and donor referrals processing, and after-hours answering service for clinics and departments.

Summary
UF Health IT employs 450 experienced and highly skilled IT professionals in both Gainesville and Jacksonville who provide the wide range of IT services needed to run a major academic health center that includes two hospitals and outpatient clinics.

UF Health Jacksonville  UF Health Jacksonville, located in Northeast Florida, is an academic health center providing education for health professionals, a hub for clinical research, and a venue for patient care. With more than 5K faculty and staff, the academic health center in Jacksonville is the largest UF campus outside of Gainesville. At 37 clinical sites throughout Northeast Florida, UF physicians tallied more than 600K outpatient visits and more than 34K inpatient admissions in 2010. UF Health in Jacksonville consists of UF Health Jacksonville, a 695-bed academic health center; UF Health Science Center Jacksonville, which encompasses three UF colleges in Jacksonville (Medicine, Nursing, and Pharmacy); and UF Jacksonville Healthcare, Inc., a network of primary and specialty care centers offering patient care throughout Northeast Florida and Southeast Georgia.

UF Health Proton Therapy Institute  The UF Health Proton Therapy Institute, located on the campus of UF Health Jacksonville, is a radiation oncology facility offering proton therapy, stereotactic radiosurgery, and conventional radiation therapy for the treatment of cancer. The institute is staffed, situated, and structured as a major clinical research facility and serves as a center for multidisciplinary research involving all interests that touch cancer and its treatment. The UF Health Proton Therapy Institute was the first treatment center in the Southeast United States to offer proton therapy. The UF Health Proton Therapy Institute, the only proton therapy facility in the Southeast US, treats an average of 110 proton therapy patients daily and a total of 150 radiation therapy patients daily. Types of cancer that are treated at the facility include cancers of the eye, head, and neck, pancreas, pituitary, prostate, breast, lung, central nervous system, base of skull as well as sarcoma, Hodgkin lymphoma, and cancer in children.

UF Health Science Center  UF Health (HSC) is the largest comprehensive academic health center in the Southeastern United States. The HSC encompasses six colleges (Medicine, Dentistry, Public Health and
Health Professions, Nursing, Pharmacy, and Veterinary Medicine). The UF’s 3.2M square foot HSC facility is home to over 2K full-time clinical and basic science faculty and approximately 8K students, including more than 4K graduate students. The HSC is a world leader in interdisciplinary research, generating 52 percent of UF’s total research awards. The HSC Gainesville campus houses several clinics and three major hospital facilities, UF Health Hospital, which includes the North Tower, home to the UF Health Shands Children’s Hospital; the Cancer Tower; and the neighboring Veterans Affairs Medical Center of Gainesville.

**UF Research and Academic Center at Lake Nona.** The UF Research and Academic Center at Lake Nona houses multidisciplinary teams of researchers, clinicians, teachers, and students with the goal of providing effective therapies and improving health for patients. Built in 2012, the 100K square foot facility has two functions: academic study and research. The facility has several distinct areas. It houses a new UF College of Pharmacy campus, expanding the UF professional PharmD Program from 200 to 280 students over four years (the UF Orlando Campus actually began in 2002; we were in a temporary location until the UFRAC opened. This statement isn’t necessarily true; I would change it to reflect something like “became the permanent home of the UF College of Pharmacy Orlando Campus or something similar). It houses the College of Pharmacy’s Center for Pharmacometrics and Systems Pharmacology, which adapts sophisticated mathematical modeling and computer simulations to mimic clinical trials of new drugs. The Center for Pharmacometrics and Systems Pharmacology educates and trains doctoral students and post-doctoral fellows in the discipline of drug development and regulatory science. Also housed in the facility is the College of Pharmacy’s Medication Therapy Management Communication and Care Center (this has a new name…. Center for Quality Medication Management, or CQM). This Center provides telephone-based communication service through experiential training in comprehensive medication reviews for Medicare patients and their health care providers. The facility houses the Institute for Therapeutic Innovation, which focuses on developing and testing new treatments and cures for infectious diseases caused by drug-resistant pathogens. Clinical research facilities, including equipped exam rooms, specimen processing area, interview rooms, a conference room and office space for study staff and monitors are available in the Lake Nona facility. The Center’s close proximity to research facilities at Sanford Burnham and to other Orlando Healthcare entities fosters collaboration and allows Floridians from the surrounding Orlando area to take part in clinical and translational research studies.

**VA Geriatric, Research, Education and Clinical Center** The VA Geriatric, Research, Education, and Clinical Center (GRECC) consists of six full-time and four part-time staff who are engaged in translational research with an emphasis on improved patient care for older veterans. GRECC collaborates with UF’s Department of Aging and Geriatric Research to address major themes including function, prevention, healthcare quality, and safety.