UF CTSI K12 PROGRAM

Resource List

Translational Science Academy – Page 3
TSA is a monthly luncheon seminar series that provides support, opportunities and resources for career development in clinical and translational research.

TSA Special Seminars: These bi-annual sessions include experts from different areas of expertise at UF who share information about their specific areas of expertise. Topic areas are selected based on NIH/federal funding priority areas. Prior sessions have included the AI seminar, held December, 2021. Future sessions will include implementation science, health disparities, and community engagement.

Translational Science Principles Series: The TSA will provide focused education in the eight key principles of translational science for the proposed K12 award, will be accessible to all campuses, and will lead to the successful development of the seven characteristics of a translational scientist among our ESIs. Our leadership is fully aware that innovative TS educational approaches are central to producing and sustaining a TS workforce that can: 1) impactfully change the translational ecosystem, 2) develop TS innovations, and 3) apply these innovations to surmount challenges across the biomedical research landscape. Therefore, the TSA will provide new and innovative educational content in the eight TS principles on a recurring two-year cycle. The eight principles of TS that will be taught include: 1) addressing unmet needs, 2) generalizable solutions to common or persistent challenges, 3) creativity and innovation, 4) cross-disciplinary team science, 5) enhance efficiency and speed of translational research, 6) boundary-crossing partnerships, 7) bold and rigorous research approaches, 8) prioritize diversity, equity, inclusion and accessibility.

K12 Award – Page 5
The K12 Career Development Award provides junior faculty with financial support and research training to develop the skills necessary to build a well-funded, collaborative career in clinical and translational research.

K/K12 Writers Workshop – Page 9
Hosted each fall, the K Writers Workshop provides attendants with a comprehensive review of K grant components, with advice on how to write a winning K grant application. Sessions are interactive and allow prospective applicants to ask specific questions regarding their applications.

R01 Bootcamp hosted by UF COM – Page 9
This 9-month, team-science and mentorship-focused program is designed to help ESIs receive their first NIH R01 grants.

Loan Repayment Program Award Workshop – Page 10
Hosted each fall, this session instructs candidates in how to compose an NIH Loan Repayment Award. These awards provide up to $50,000 per year to pay for educational debt and covers resulting federal taxes (39%) to eligible junior scientists with at least a 20 hour per week research commitment. Applications can be renewed more than once to obtain additional funding. (https://www.lrp.nih.gov/)

K Grant Mock Review – Page 10
The K12 program will have regularly scheduled (bi-annual) K mock reviews for prospective K applicants. Prospective applicants must submit essential grant materials prior to their NIH grant submission date, for peer review by selected UF Faculty/scientists. Applicants will listen in on mock reviews, can ask the reviewers questions and garner feedback for the NIH grant submission. They will also receive mock summary review statements.

K Library
The K12 program houses a list of prior successful applications. The Program Coordinator works to connect you with the successful K applicant for sharing and reference.

K12 Office hours
Twice monthly, the K12 Co-directors have open office hours to meet with prospective or current scholars to provide career advice, direction and information regarding the K12 program.

TRACTS and Mentor Academy – Page 11
The Training and Research Academy for Clinical and Translational Science (TRACTS) is a training program for early career faculty who have an interest in pursuing clinical/ translational research as a major component of their careers. The goal of TRACTS is to prepare clinicians for an expanded role in health sciences, including further research career development. TRACTS is designed to have a small footprint on clinical schedules.

Curriculum – Page 13
K Program integrate flexible, innovative curriculum rooted in TS principles and core competencies to develop TS characteristics among aspiring ESIs across all UF and FSU campuses
FACTS (Fundamental Aptitude in Clinical and Translational Science) Certificate Program
GMS 7093: Introduction to Clinical/Translational Research
GMS 6848: Ensuring Rigor and Reproducibility
PHC 6001: Principles of Epidemiology 1
GMS 7877: Responsible Conduct of Biomedical Research
PHC 6050C: Biostatistics Methods I
GMS 6803: Data Science for Clinical Research
Grant Writing for Biomedical Sciences
Good Clinical Practice (GCP)

Certificate Programs – Page 15
Community Engagement Certificate
Implementation Science Certificate
UF Jacksonville (UF COM-JAX) Center for Research Training and Research Training Academy Certificate

Translational Science Academy

Translational Science Academy is a monthly luncheon seminar series that provides support, opportunities and resources for career development in clinical and translational research.

Hosted by: Christiaan Leeuwenburgh, PhD and Faheem Guirgis, MD

This seminar series ranges from life-work balance to identifying core facilities available to Scholars. It provides peer support and opportunities to raise issues of concern and discuss need for resources to support career development in clinical & translational research. The target audience is early stage investigators, pre and post-doctoral researchers

https://www.ctsi.ufl.edu/education/medical-fellows/

Day: **Wednesday (**the first of the month); **Time: Noon – 1:00 pm**

Regular sessions will be online via Zoom and recorded for later viewing(until further notice)

TSA 2023 -2024 Dates:

Date	**Topic**	**Presenter**
November 1, 2023	Prioritize Diversity, Equity, Inclusion and Accessibility	Tiffany Danielle Pineda
December 6, 2023	*All of Us* Workbench Information	Zoe Lohse
January 10, 2024	Publications series part 1: Introduction to Research Impact; and possibly NIH Public Access Policy Compliance	Terry Selfe
February 7, 2024	Bold & Rigorous Research Approaches	Lauren McIntyre, PhD
March 6, 2024	Publication series part 2: Publish, Don't Perish: Tools to make writing your article easier	Terry Self
April 3, 2024	Approaches to Health Disparities in Research with Dr. Colleen Gutman	Colleen Gutman, MD

CTSI K12 Career Development Awards

CTSI K12 CAREER DEVELOPMENT AWARDS

The K12 Career Development Award provides junior faculty with financial support and research training to develop the skills necessary to build a well-funded, collaborative career in clinical and translational research.

Qualified faculty at the rank of assistant professor with an MD, PhD, or equivalent degree in the health sciences and who are U.S. Citizens or have Permanent Resident (Green Card) status are encouraged to apply. The CTSI welcomes applicants from any of the UF Health Science Center's six colleges.
Eligibility

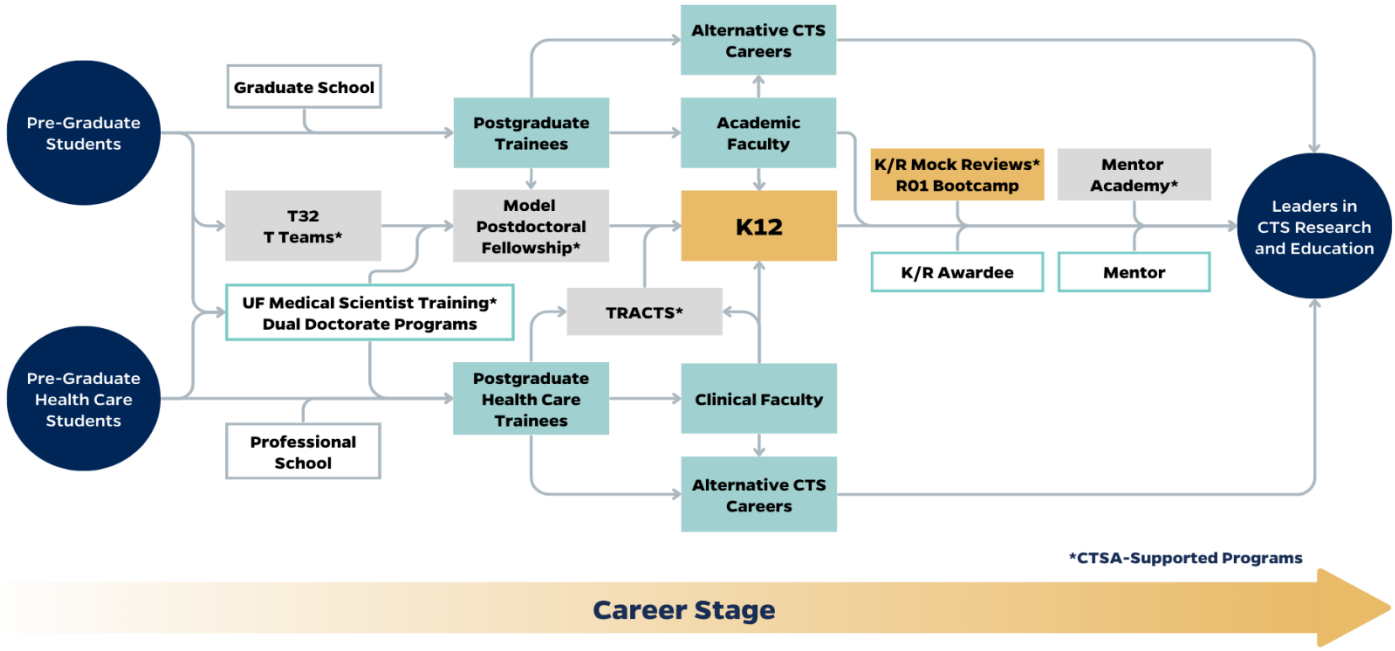

Figure 1: Career Pathways Leading to Leaders in Clinical Translational Science (CTS) Research and Education.

Applicants to the CTSI K12 program must:

1. Be a U.S. citizen or legal permanent resident, as this is required by the CTSI K12 support mechanism
2. Have a clinical doctorate (M.D., DMD, DVM, PharmD, etc.) or Ph.D. degree or its equivalent in health sciences
3. At the time of appointment, scholars must not have a pending application for any other PHS mentored career development award (e.g., K07, K08, K22, K23, F99/K00) that duplicates any of the provisions of the K component. Former or current PDs/PIs on any NIH research project grant [this does not include NIH small grants (R03), Exploratory/Developmental (R21) or SBIR, STTR (R43, R44 grants)] or equivalent non-PHS peer reviewed grants that are over $100,000 direct costs per year, or project leaders on sub-projects of Program project (P01) or center grants (P50) are NOT eligible to participate as scholars.
4. Appointed scholars are encouraged to apply for individual mentored K awards (e.g., K07, K08, K22, K23) and independent awards (e.g., R01, R03, R15, R21, R34, or equivalent application from another Federal agency); if successful, scholars may be required to reduce effort on the mentored career award to a minimum of six-person months and hold concurrent support from their mentored career award and a competing PHS research grant on which they are the PD/PI or component lead or terminate the K12 appointment depending on Program requirements (See NOT-OD-08-065).
5. Have department and division guarantee of 75 percent of full-time professional effort dedicated for program participation and for related clinical research activities. May be negotiable to a minimum of 50 percent

effort/ salary support for selected situations, such as clinicians with substantial clinical technical roles who require maintenance of clinical and technical proficiency.

6. Propose a research project that is **clinical/ translational and multidisciplinary** in nature, is relevant to human health and will lead to results suitable to serve as the foundation for a successful research grant application
7. Hold a current UF faculty position as an assistant professor, preferably within one to three years of first appointment
8. Identify established, funded mentors who have the interest and time to provide guidance and research expertise for the planned project
    - Each applicant must choose a lead mentor and one or more co-mentor(s)
    - At least one mentor from each of two different disciplines
9. Possess strong academic credentials and good communication skills
10. Have a strong interest in developing a career in multidisciplinary clinical or translational research
11. Not be or have been a principal investigator on an NIH-funded R01, R29 or a subproject of a Program Project (P01) grant, Center (P50, P60, U54) grant, mentored career development (K-series) grant, or other equivalent research grant award (including national career development awards that provide both annual salary support and research funds, such as the AHA Scientist Development Grant).
    - Note: R03 and R21 awardees are eligible to apply.
12. Have the ability to commit to full participation in all requirements of the training program, including the intensive Summer B course, GMS 7093, Introduction to Clinical & Translational Research, held in the summer for 11 consecutive days, typically in mid-July

Requirements

Research Project

CTSI K12 Scholars are expected to conduct an independent research project that is clinical or translational in nature and designed to be completed well within the two years of program participation. The project must be clearly clinical/ translational in nature (see Definitions below). This project is expected to result in sufficient pilot findings that will permit the submission of a multidisciplinary R01 grant (or equivalent) by the second year of program participation. The project needs to take advantage of CTSI resources and cores.

Mentorship

Each applicant must propose at least one primary mentor (or two co-primary mentors), each from a different discipline, with at least one mentor who is a clinician-scientist. In addition, K12 scholars should identify additional content mentors to complete the mentor mosaic, and one UF-FSU Developmental Faculty Mentor, with cross-campus mentorship strongly encouraged. Developmental Faculty Mentors are scholars at UF-FSU who successfully graduated from the K12 or K12 program and have an independent K award but does not yet have independent funding and has a limited track-record of mentoring. Community mentors or citizen-scientist mentors (via UF-FSU CE Program) are always encouraged. The Mentoring Mosaic will meet with the scholar at least bi-annually and will prepare a mentoring report to submit to the KAC and K12 directors every year.

Requirements for the mentorship plan:

A. The candidate's lead mentor and co-mentor(s) (including development mentors) must each complete a Mentor's Statement *following the format provided and not exceeding the 1 page limit.* Mentors' NIH Biosketches should immediately follow their Mentors' Statements. Table of prior mentees may be a separate page.
B. The candidate's Department Chair must complete a Statement *following the format provided and not exceeding the 1 page limit*.
C. The candidate's Division Chief (if applicable) must complete a Statement *following the format provided and not exceeding the 1 page limit*.

Training Plan

CTSI K12 Scholars are expected to have a training plan with a two-year timeline that includes specific courses (certificate or degree if appropriate); indicates any off-site training proposed (skills development); and includes Good Clinical Practice training (CITI or ACRP).

Individual Development Plan (IDP)

You may use the format and content entered through Myidp.sciencecareers.org Alternatively, prepare an IDP that minimally contains short term and long term goals (see format).

Each K12 scholar will be required to develop an IDP with their primary mentor(s) and Mentoring Mosaic using the "myIDP" web-based program, with milestones and a detailed timeline as appropriate. The IDP will include the scholar's career goals, didactic coursework, and their research project goals, e.g., anticipated activities related to the research project such as publications, presentations, meetings or workshop attendance, and applications for career development awards or other grants. Other professional activities planned may include teaching activity, clinical activity (if appropriate), and UF-FSU committee or service activities, including professional societies and community activities.

The IDP must include a detailed plan for translational science education. Please reference the NCATS website regarding translational science principles and characteristics of a translational scientist (https://ncats.nih.gov/training-education/translational-science-principles). It must also include a community engagement plan describing community stakeholder engagement in the project development, implementation or dissemination phases and community relevance.

Be sure to review the IDP (and other content of this application) with your mentor(s).

Scholar Expectations

CTSI K12 Scholars must adhere to the directives outlined in the mentoring plan, training plan, IDP and progress reports; conduct solid pilot research; complete semi-annual progress reports describing the specific activities and accomplishments and whether the benchmarks have been reached; participate in the annual UF CTSI Research Day; present their research at the national CTSA Translational Research meeting each spring; and complete a suitable training plan including GCP training. CTSI K12 Scholars will be contacted annually for a minimum of 10 years after completing the program to assess career progress.

Departmental Support

The scholar's department must agree to the following:

1. Scholar will spend 75% of his/ her FTE on CTSI K12 didactics, research and other CTSI K12 Scholar activities
2. This 75% of FTE is based on the scholar's workweek schedule at time of entry into the program
3. Any changes to the scholar's schedule that could infringe upon this 75% time must be discussed with the CTSI K12 directorship

Selection process

Scholars are selected for support based on a competitive review process in which academic qualifications, career goals, and the quality of the training environment will be important considerations for funding. Finalists are interviewed by members of the K12 Advisory Committee.

- **Track Record:** Creativity of the candidate and potential to lead excellent multidisciplinary research judging by track record in some or all of the following: areas of expertise and prior training; number of first- or senior-author publications; funded grants; written product attached to the application.
- **Research Plan:** Scientific value, potential clinical importance, and feasibility of the written multidisciplinary research plan. Likelihood of the research project to result in a larger independently funded peer-reviewed grant. Utilization of CTSI cores and resources.
- **Mentors:** Quality, appropriateness, track record of previous trainees, record of research funding (NIH or equivalent funding is preferred) and multidisciplinary expertise of the proposed mentor(s).
- **Training Plan:** Feasible, timeline, appropriate.
- **IDP:** Evidence of mentor input, appropriate, feasible, thoughtful.
- **Resources:** Tangible commitment and resources provided by the home department, and suitability of the available clinical and laboratory infrastructure and multidisciplinary team.
- **Career Potential:** Global assessment of the likelihood that the candidate will develop a career as an outstanding investigator who will lead multidisciplinary teams and have an important impact on health.
- **Departmental Support:** Clear commitment from the candidate's department to respect the candidate's effort in the program and value the candidate's career as a clinical/ translational researcher.

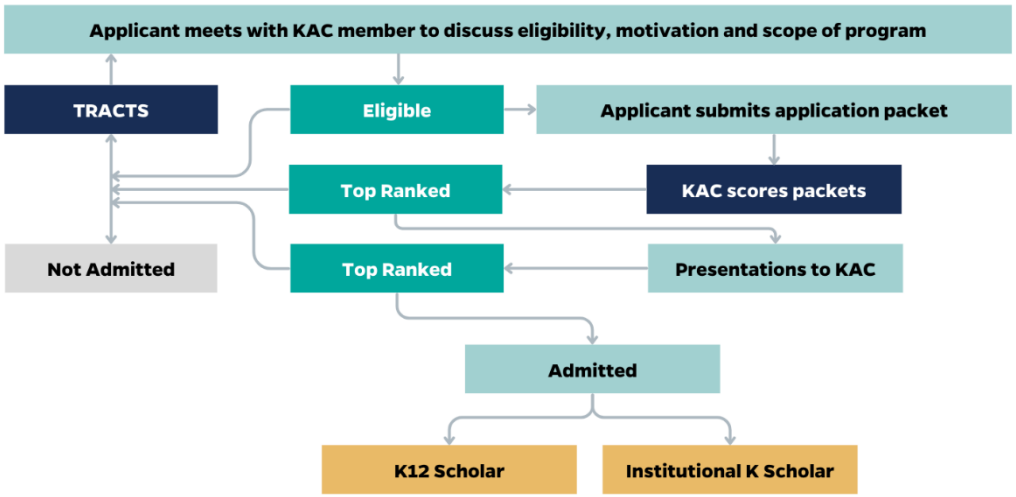

Figure: K12 Trainee Selection Process

Grant Writing and Educational Workshops

K/K12 Grant Writer's Workshop

This workshop will provide a comprehensive review of K grant components, with advice on how to write a winning application. Sessions are interactive and allow prospective applicants to ask specific questions regarding their applications.

K/R Grant Mock Review

The K12 program will have a regular scheduled (bi-annual) K/R Mock Reviews for prospective K or R applicants who will submit essential grant materials for peer review by UF and FSU faculty and scientists prior to their NIH grant submission date. Applicants will listen in on mock reviews with their mentors, ask the reviewers questions, and garner feedback. They will also receive mock summary review statements. In our prior experience, mock review attendees have received valuable feedback that likely increased their rate of NIH funding on their first grant submission after implementing changes suggested by mock reviewers.

R01 Bootcamp

Course Overview:
This 9-month, team-science and mentorship-focused program is designed to help ESIs receive their first NIH R01 grants. Faculty selected as mentees receive training in grant writing, team science, and biostatistics, as well as giving a chalk talk presentation and participating in a mock study review. Senior faculty with strong track records of NIH funding and a commitment to mentoring serve as faculty coaches and meet monthly with groups of six to eight mentees to guide them through the proposal development process while encouraging peer support and constructive feedback. Mentees also meet monthly with an internal subject matter expert who provides counsel throughout proposal preparation. Final proposals are reviewed and critiqued by an external subject matter expert prior to R01 application submission. Overall, the program is designed to give junior faculty the tools and knowledge needed to write a successful R01 grant proposal.

Course Goal:
To enhance skills and provide support for early stage investigators (e.g. K awardees, postdoctoral fellows) in order to convert their career development awards to independent investigator awards (e.g. R-series). An independent research grant application (e.g. R01) will be written by most participants, but other types of applications (Foundations, Career Development Awards) may be proposed. Some ESI's (e.g. K12 Awardees) may write their individual K Award applications

Learning Objectives/Acquired Competencies

1. Update processes and skills in preparation, submission and review of research grant applications competitive for federal research funding.
2. Develop research ideas and proposals as part of a team of colleagues and mentors.
3. Provide review and critique of colleague's' research proposals in a rigorous yet constructive manner.

Who should participate in this Workshop?
Career Development Award (K) recipients in the last three years of their K support. R applications can be submitted by K awardees prior to but cannot be activated if funded until the last two years of the K Award.

1. Early stage investigators who have completed their terminal degree or completed clinical training in the past 10 years but have never received an NIH RO1-type grant as PI, including those with previous RO1 submissions with unfundable scores.
2. Early stage investigators who plan to submit an RO1-type award in the June or September due dates of the next grant application cycle.

Evaluation

This workshop is not credit-bearing and the major course benefit is the submission, review, and critique of an R-series application to an NIH Scientific Review Group. The key performance metric is the preparation of independent investigator originated (renewable R-series) research grants.

Loan Repayment Program (LRP) Award Workshop

Hosted each fall, this session teaches candidates how to compose an NIH LRP award. These awards provide up to $50,000 per year to pay for educational debt and covers resulting federal taxes (39%) to eligible junior scientists with at least a 20-hour-per-week research commitment. Applications can be renewed more than once to obtain additional funding.

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TRACTS: Training and Research Academy for Clinical and Translational Science

The Training and Research Academy for Clinical and Translational Science (TRACTS) is a training program for early career faculty who have an interest in pursuing clinical/ translational research as a major component of their careers. The goal of TRACTS is to prepare clinicians for an expanded role in health sciences, including further research career development. TRACTS is designed to have a small footprint on clinical schedules.

Program Overview

TRACTS consists of three components aimed at balancing the demands of clinical and academic pursuits:

Introduction to Clinical Translational Research course
Mentor identification
Monthly Meetings
Individual and group career navigation

Mentorship

TRACTS participants enter the program with a variety of research interests but are often new to UF. After one or more interviews with TRACTS staff, they will identify potential mentors from faculty within the Health Science Center as well as relevant academic units.

TRACTS Eligibility

- Candidates must be faculty with a full-time appointment within a UF department or a fellow or post-doc who plans to pursue a full-time faculty position upon completion of training.
- Candidates must have completed their health professions doctoral degree (e.g., M.D., D.O., D.D.S., D.M.D., O.D., D.C., Pharm.D.)
- Candidates with PhD or another doctoral degree in a clinical discipline such as clinical psychology, nursing, clinical genetics, speech-language pathology, audiology or rehabilitation are also eligible.

Citizenship

Although US citizenship is not required, the candidate must be able to demonstrate that he/she will be eligible for US career development grants at the time of completion of the program.

Individuals on student visas are not eligible.

Former PD/PIs on NIH research project (R01), program project (P01), center grants, FIRST Awards (R29), sub-projects of program project (P01) or center grants, other career development awards (K–awards), or the equivalent are not eligible.

TRACTS Program Director
Ron Shorr, MD, MS
(352) 374-6077

TRACTS Co-Director
Cyndi Garvan, PhD
(352) 273-8952

About the Director

Ron Shorr, MD, MS, professor of epidemiology, UF College of Public Health and Health Professions and College of Medicine, and director of the Geriatrics Research, Education and Clinical Center at the Malcom Randall Veterans Affairs Medical Center.

Professor of epidemiology, UF College of Public Health and Health Professions and College of Medicine, and director of the Geriatrics Research, Education and Clinical Center at the Malcom Randall Veterans Affairs Medical Center

Background

Dr. Shorr has a long track record and passion for mentoring and has been engaged in physician academic development programs at UF since his arrival in 2007.

Undergraduate - Duke University
Medical school - Ohio State University Training
Medicine and Geriatrics, University of Wisconsin and William S. Middleton Memorial Veterans Hospital
Masters - Epidemiology, Case Western Reserve University
Fellowship - Pharmacoepidemiology, Vanderbilt University
Research interests

Dr. Shorr has extensive experience conducting both observational and experimental studies on healthcare safety and quality, particularly in older adult populations

Formal Curriculum and Certificate Programs

FACTS (Fundamental Aptitude in Clinical and Translational Science) Certificate Program
The CTSA's didactic curriculum grows out of a program originally supported by a K30 award, in the form of a 30-credit MS in Clinical and Translational Science. While designed to provide the core competencies for a translational science career, the program did not sufficiently meet the learners' needs and had difficult time requirements for early-stage clinical and translational researchers. Subsequently, the **FACTS certificate** was created and is currently offered through UF's graduate school. This reduced-credit (13 total) option allows all learners to obtain the TS characteristics needed by most burgeoning translational scientists. *All K12 and CTSI scholars are encouraged to complete this program, which covers several core competencies*. These options offer several advantages that recognize K12 scholars' differing needs. A major advantage is FACTS allows for most skill requirements to be fulfilled at distant campuses and partnering institutions and efficiently provides training in areas relevant to most K12 scholars. Master's degree programs also provide the graduate credentials that many scholars find useful in their subsequent career development. UF and FSU provide educational offerings to all campuses via online and asynchronous options

FACTS Certificate Courses. All FACTS courses are available online.
-*GMS 7093: Introduction to Clinical/Translational Research.* This course provides an overview of topics relevant to CTS and has been well-attended (21 attendees in 2022 including graduate students, MD/PhD students, postdoctoral fellows, and ESIs). K12 scholars may serve as small-group instructors in Year II.

-*GMS 6848: Ensuring Rigor and Reproducibility.* This course teaches the key characteristics, strengths, and weaknesses of various study designs necessary to ensure scientific rigor, recognition of key biomedical variables necessary for a given research question, and implementation of best practices in data collection and management. It also emphasizes the importance of selecting appropriate data analysis techniques to ensure reproducible results. Students are required to present results from a research study in a transparent manner.

-*PHC 6001: Principles of Epidemiology 1.* This course explains the place of epidemiology in general health thinking and the basic principles of epidemiology. Examples of the use of these principles are presented so that students will have sufficient understanding to apply them in future health work. Students will critically read and evaluate their public health work using these principles.

Table 1. Fundamental Aptitude in Clinical and Translational Science (FACTS) Certificate

Semester	Course # and Title	Credits
Year I Summer	•GMS 7093: Introduction to Clinical/Translational Research	-
Year I Fall	•GMS 6848: Ensuring Rigor and Reproducibility •PHC 6001: Principles of Epidemiology •TSA Seminar Series •Professional Skill-Building Curriculum	1 3 - -
Year I Spring	•GMS 7877: Responsible Conduct of Biomedical Research •Grant Writing Course •TSA Seminar Series •Professional Skill-Building Curriculum	3 - - -
Year II Summer	•PHC 6050C: Biostatistics Methods I •TSA Seminar Series •Professional Skill-Building Curriculum	3 - -
Year II Fall	•GMS 6803: Data Science for Clinical Research •Good Clinical Practice (GCP) Certification •TSA Seminar Series •Professional Skill-Building Curriculum	3 - - -
Year II Spring	•TSA Seminar Series •Professional Skill-Building Curriculum	- -
Total		13

The following courses can be used as substitutes (all have 3 credits):
- GMS 6050: Statistical Methods Health Science I (for GMS 6050C)
- PHC 6051: Biostatistics Methods II (for GMS 6050C)
- GMS 6804: Translational Bioinformatics (for GMS 6803)

-*GMS 7877: Responsible Conduct of Biomedical Research*. Led by T32 Director Dr. McCormack, this course introduces key issues in the responsible conduct of research, following the research process from inception to planning, conducting, reporting, and reviewing biomedical research, with a practical overview of the rules, regulations, and professional practices.

-*PHC 6050C: Biostatistics Methods I.* The first of two sequential courses providing the fundamentals of biostatistical data analysis, this course covers linear models, focusing on the theory and practice of regression

and analysis of variance.

-*GMS 6803: Data Science for Clinical Research.* This course introduces a wide range of concepts and techniques in data science as they apply to biomedical and clinical research. It teaches the entire life cycle of data, from data collection to data analysis to dissemination and archiving. It gives students insight into tools, methods, and approaches for big data analytics in the biomedical domain.

-*Grant Writing for Biomedical Sciences.* An introductory grant-writing course focused on NIH grant programs should be selected from the Grant Writing Clearinghouse (see Career and Professional Development)

-*Good Clinical Practice (GCP).* All K12 scholars will complete the mandatory course, GMS 7003: Responsible Conduct of Research, plus certification in GCP through the Collaborative IRB Training Initiative or the Association of Clinical Research Professionals e-learning modules.

Certificate Programs

Community Engagement Certificate. This program teaches the principles of CE and includes discussion of various CE models. Students learn from hands-on examples and evaluate data from CE studies tailored toward their areas of interest to better understand the population. They then review available resources for CE research and, in the experiential component, attend a community advisory board meeting to receive feedback on their planned interventions, informed consent forms, or other items relevant to their research project.

Implementation Science Certificate. This 11-credit, one-year, part-time program gives students the background and skills they need to build a foundation in implementation science research. Students learn the fundamental concepts of the design, conduct, and interpretation of dissemination and implementation research; study various research designs commonly used in translational health research; and design their own implementation study in a collaborative environment.

UF Jacksonville (UF COM-JAX) Center for Research Training and Research Training Academy Certificate. This center provides comprehensive training in CTS to UF COM-JAX faculty, trainees, and students. The three-tiered curriculum provides educational options for nearly all commitment levels. Coursework ranges from lessons in the basics of clinical research (Tier 1: Research Essentials) to immersive training in study design and grant writing (Tier 2: Research Training Academy) to formal support for pursuing a research career (Tier 3: Jax Scholars).

Other Educational Workshops and Seminars

All About Funding. Led by Drs. Naar (K12 program co-director) and Budhwani (K12 KAC co-chair) at FSU, this is an eight-module onboarding program for early-career investigators. Both UF and FSU ESIs will be encouraged to enroll into this program and the program will be advertised through the Translational Science Academy. Modules 1–4 are delivered in the fall and modules 5–8 are delivered in the spring, and all modules have an in-person and Zoom option. Each module is 90 minutes, with 45 to 60 minutes dedicated to didactic lecture and the rest to questions and discussion. Topics include NIH foundations, such as institutes/centers, terminology, standard dates, and using NIH RePORTER; elements of a good research strategy; overlooked components, such as requesting a study section, clinical trial forms, data safety and monitoring, and managing and sharing data; building a budget; study section and council review, including the timeline from submission to funding; deciding when to resubmit or start over; and examples of funded grants. As flexibility and innovation are built into the series structure, other topics (e.g., methods for early-phase versus full-scale trials, advanced trial design, recruitment and retention, and NIH reporting) will be incorporated based on K12 scholar need.

AI Education. UF aims to be the premier Artificial Intelligence University, where all colleges and departments provide education about AI and its applications, and where AI is used to expand knowledge in many fields. The COM offers two non-traditional courses offered online and asynchronously: (1) AI in Medicine, a three-course series that provides AI fundamentals, programming requirements, and deep learning methods; and (2) Machine Learning and Programming Bootcamp, which teaches some elements of programming and the skills to use the UF AI infrastructure (e.g., HiPeRGator, the UF Supercomputer) in partnership with NVIDIA™.

R25 Methods for Early-Phase Translation of Basic Science into Behavioral Treatments to Improve Health (PI: Dr. Naar). This NIH funded research education program aims to train 100 intervention scientists (fellows) nationally at any academic rank interested in behavioral treatment development for cancer and related health behaviors. Training takes place over 6 months including a 3-day workshop followed by bi-weekly webinars with 25 Fellows per session. Learning is multi-directional and features didactic, interactive, and applied teaching techniques. The curriculum is offered by expert faculty who teach a phased approach to intervention development, new and innovative methods that are well-suited to answer common questions that arise during health behavior treatment development.

Mentor Development Programs Supported by CTSI

To ensure training faculty can be effective mentors, the CTSI employs multiple mechanisms. First, since 2013, the Master Mentor Program is designed to ensure long-term availability of high-quality mentors, using the CTSI Mentor Academy (directed by Dr. Fillingim) and the Mentor Development Working Group. The Master Mentor Program consists of 4-month curriculum with biweekly meetings covering topics ranging from research ethics to communication skills, mentoring across diversity, bias aligning expectations, and promoting independence and professional fulfillment. This evidence-based curriculum has been shown to improve perceived confidence in mentoring as measured by the Mentoring Competence Assessment, and findings from our local training show similar efficacy. Two cohorts of 10–12 faculty complete the program each year. Since 2013, more than 160 faculty from eight colleges have completed this training at UF. This program is designed to assist mentors in developing best practices and to develop a network of mentors at UF and FSU who serve as invaluable resources to each other and to the universities. Upon completion, attendees receive a Master Mentor Award. The Mentor Academy has expanded its programs to increase diversity and accommodate additional faculty, including a Mentor Development course to train junior faculty to be effective members of a mentoring team. Moreover, Dr. Fillingim is leading an initiative to establish mentor training programs across multiple colleges and units at UF, with the CTSI Mentor Academy serving as the model. To date, 10 colleges and units have implemented mentor training programs for their faculty, which has greatly increased the capacity for mentor training across UF. UF also annually bestows several awards for faculty mentoring excellence. Thus, with leadership from the CTSI Mentor Academy, UF has taken bold steps to promote and ensure the long-term availability of well-trained mentors for the K12 and other career development programs at UF and FSU. The online, one-credit Mentor Development Program, for postdoctoral fellows who frequently mentor undergraduate, graduate, or professional students in biomedical research programs, can be enrolled in separately or as part of a Biomedical Scientist as Educator certificate approved by UF's graduate school. The Mentor Academy expanded to FSU in 2020 under the leadership of Rachel Goff-Albritton, PhD, assistant director of FSU's Office of Research Development (ORD). The first Research Mentor Academy (RMA) workshop was held in spring 2021, and workshops and seminars have been held each semester since then for audiences ranging from new and early-career faculty to faculty with well-established research portfolios to graduate students and undergraduates. As of 2022, RMA has 57 certified alumni and nine trained facilitators. RMA continues to foster collaborators with mentoring efforts on the FSU campus and across the country. Noteworthy collaborations include FSU's Office of Faculty Development and Advancement, FSU's Office of Graduate Fellowships and Awards, the National High Magnetic Field Laboratory, the National Organization for Research Development Professionals, and the Center for Improved Mentoring Experiences. RMA has become an institutionalized resource, supporting several NSF and NIH grants as well as in Institute for Education Sciences grant and an American Chemical Society Bridge Program grant.

Table 2. UM1/CTSI Resources for K12 Scholars.

Funding & Support	K Awards Pilot Awards Vouchers
Population Research, Community Engagement & Participant Recruitment	Precision Health Program Biobehavioral Core Dissemination & Implementation Science Recruitment Center UF HealthStreet CTSI Mobile Health UF Health Precision Health Research Center – The Villages Florida Research Data Center OneFlorida+
Data Collection, Analysis & Infrastructure	Integrated Data Repository Clinical and Translational Science - Informatics & Technology (CTS-IT) REDCap Learning Health Systems Network Science Research Design & Data Coordinating Center
Regulatory Navigation & Ethics	Good Laboratory/Manufacturing Practices (GMP/GLP) Services Investigational New Drug/Device Exemption (IND/IDE) Services Regulatory Assistance Quality Assurance Citizen Scientist Program Inclusive Wellness
Facilities & Resources	Biorepository Clinical Research Center Human Imaging Core Genotherapy Core Southeast Center for Integrated Metabolomics Pain Research & Intervention Center of Excellence Translational Drug Development Core Center for Cellular Reprogramming Natural Language Processing Core