



UAB Cancer Research Experiences for Students
Overview of the “CaRES” Program

www.uab.edu/cares

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Goals and Rationale of the CaRES Program

Long-term goal: motivate participating students to pursue careers in cancer research.

Short-term goals: provide each student with the support needed to undertake a mentored cancer research project; provide each preceptor with a capable student who can facilitate his or her research progress.

Overarching goal: to become recognized as a model for short-term cancer research education and training.

Sept. 2016: CaRES made an invited presentation at NCI

Background of the CaRES Program

- An NCI R25E training grant, first funded in 1999
- Now in its 17th year; **renewed in 2015 for 2016-2020**
- To date supported over 640 medical and graduate students to do short cancer research projects
- Preceptors are UAB Comprehensive Cancer Center faculty
- Through summer 2015, all projects were done at UAB
- Longitudinal tracking of 1999-2015 CaRES students found:
 - 1) 15% are actively involved in cancer research
 - 2) 27% published cancer-related, peer-reviewed papers following CaRES, 401 papers through 07/16

CaRES Application Process

Actually, there is no application to fill out! And no deadline.

- **UAB Cancer Center faculty members** who would like a CaRES student to work with them in the summer post **project descriptions** on our website www.uab.edu/cares in late January and February.
- Students read each **project description** and accompanying thumbnail sketch of the “**ideal intern,**” and in this way **identify** projects to which they are **best suited**, based on their academic degree programs, qualifications, background, and career interests.
- **Students email** their CV’s to preceptors and request interviews for any and all projects of interest to them for which they feel qualified.
- The first **40-43 preceptor-student matches** are granted funding.
- **Student selection** takes place in late January and February although the projects are not done until the **summer term** (May-August)

Eligible Students and Performance Sites

- **UAB** medical and public health students
- **USA** medical students
- **Auburn** veterinary medicine and pharmacy students
- **Samford** pharmacy and public health students
- **Tuskegee** veterinary medicine students (once approved)

*Each CaRES project must be done at **UAB** or at **HudsonAlpha Institute for Biotechnology**, the only approved “**Performance Sites**” specified in our grant proposal*

- Students must pay for their own **housing** or (ideally) stay for free with a relative or friend! CaRES can help with housing arrangements (contact Dr. Waterbor).

CaRES Faculty Preceptors' Research

CaRES preceptors are drawn from **400 UAB Cancer Center faculty** having appointments in one of six research divisions:

- 1) Immunology, Inflammation, and Immuno-therapeutics
- 2) Cancer Cell Biology
- 3) Experimental Therapeutics
- 4) Neuro-Oncology
- 5) Cancer Prevention, Control and Population Sciences
- 6) Chemoprevention

Research Projects Available to CaRES Students

***Any type of cancer research project can be funded.
Project descriptions are submitted by CCC faculty.***

In recent years many CaRES projects have focused on cancers of the breast, ovary, cervix, skin, and brain; or on obesity, diet, and tobacco use; or on cancer survivorship

CaRES Projects funded over the past 3 years:

- Basic Science (including animal research) – 35%
- Clinical (cancer patients) – 35%
- Community (people at risk for cancer) – 25%
- Statistical and analytical (secondary data) – 5%

Length of Internships, Settings, and Pay

- **8 -15 weeks** in the summer (May through August)
- Each summer a ***15-week window*** is established (the earliest possible start date and latest possible end date)
- Specific start and end dates for each project are negotiated by preceptor and student, according to their availability and in light of the demands of the project
- **Almost all projects** are done on the **UAB campus**
- **Up to 6 CaRES projects (on genomics)** can be based at **HudsonAlpha Institute for Biotechnology in Huntsville, AL**
- Students are paid **\$400/week** for full-time effort

Seminar Series and Other Learning Activities

- **CaRES Seminar Series:** 10 hours (in-person and online) on Responsible Conduct of Research (**RCR**) and Career Development
- Additional **RCR** information and videos are available through a link on the CaRES website and from the UAB Graduate School website
- Students present **posters** at a CaRES Seminar in July; CaRES can pay for poster preparation
- **UAB Medical students** can keep their posters and present them at **Medical Student Research Day** in the fall
- **All CaRES students** may present their posters at the **CCC Annual Research Retreat** in the fall; the best poster receives a travel award
- Funds are available for **travel and per diem** for up to 20 CaRES students to present their research at professional meetings

Important Features of CaRES

- **Self-matching process** of students to projects / preceptors
- **Flexible start & end dates** within a 15-week window each summer
- Recruitment of students from **several professional and biomedical graduate programs**: medicine, public health, veterinary medicine, and pharmacy . . . and from **several universities**
- Up to 6 of 40 projects can be based at **HudsonAlpha** in Huntsville
- High **project completion rate** due to Individual Development Plans completed by each student-preceptor pair before summer begins
- Instruction in the **RCR** and **Career Development**
- **Favorable short-term and longitudinal program evaluation results**

CaRES Publications

- **Daniel CL, Brooks CM, Waterbor JW.** Approaches for longitudinally tracking graduates of NCI-funded short-term cancer research training programs. *J Cancer Educ* 2011; 26:58–63
- **Desmond R, Padilla LA, Daniel CI, Prickett CT, Venkatesh R, Brooks M, Waterbor JW.** Career outcomes of graduates of R25E short-term cancer research training programs. *J Cancer Educ* 2015 Jan 22 [Epub ahead of print]
- **Padilla LA, Venkatesh R, Daniel CL, Desmond RA, Brooks CM, Waterbor JW.** An evaluation methodology for longitudinal studies of short-term cancer research training programs. *J Cancer Educ* 2016; 31(1):84-92. NIHMSID: NIHMS644185 PubMed [journal] PMID:25412722, PMCID: PMC4441613
- **Padilla LA, Desmond RA, Brooks CM, Waterbor JW.** Automated Literature Searches for Longitudinal Tracking of Cancer Research Training Program Graduates. Submitted to *J Cancer Educ* in August 2016; *AACE Presidential Prize Paper Award, 2016*

Reasons for CaRES Program Successes

- **Large pool of bright and highly-motivated students of varied backgrounds and disciplines from which to recruit**
- Excellent (and numerous) faculty preceptors who are very active in cancer research and enjoy mentoring students
- Dedicated CaRES program faculty: Drs. Waterbor, Smith, Desmond, Brooks, and Litton
- Dedicated CaRES program staff: Internship Coordinator Judy Baker; Website Developer Daniel Camburn
- UAB's collaborative and student-oriented environment

Questions? Contact Dr. Waterbor at 205-934-7146 or h2obor@uab.edu, Ryals – 227C. Thank you! *01/08/17*