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PRINCIPAL INVESTIGATOR:
David M. Lubaroff, PhD

CONTRACTING ORGANIZATION:
University of Iowa
Iowa City, IA 52242

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14. ABSTRACT The HBCU Summer Research Training Program accepted a total of 8 students from Lincoln University for the eight week session during the summer of 2009. Three of the students were supported by this grant and five of the students were supported by the second grant awarded in 2007. Each student was assigned to a laboratory of a participating mentor and also paired with a member of the mentor's laboratory. This laboratory member assisted with day to day aspects of the research project. During the summer the students worked diligently on their research project, participated in meetings of the mentor's laboratory, attended workshops and seminars associated with our and other summer programs, and attended a special course in prostate cancer. We integrated the Lincoln students into social programs held throughout the campus for summer interns and they attended and participated in the CIC Conference at the University of Michigan. At the end of the summer sessions the students presented a poster of the research results from the summer experience. They also presented the results of their research in the fall at Lincoln University. All of the students are continuing their undergraduate education at Lincoln University.					
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Introduction:

The original grant, awarded in 2006, supported five students per summer and a second grant, awarded in 2007, supported three additional students to allow our program to train eight students each year. Although this award was for a renewal of the original grant for five students I am submitting the annual report on the entire summer training program that includes both of the grant awards. For the year reported here we had the following faculty participants: David M. Lubaroff, PhD, Principal Investigator, Paul Heidger, PhD, University of Iowa Faculty Advisor, Derek Swinton, PhD, Lincoln University Faculty Advisor, and the following mentors: Jackie Bickenbach, PhD, Elizabeth Chrischilles, PhD, Frederick Domann, PhD, Elizabeth Field, MD, Thomas Griffith, PhD, Michael Henry, PhD; Siegfried Janz, MD, Yi Luo, MD, PhD, Aliasger Salem, PhD, Michael Schultz, PhD, Douglas Spitz, PhD, George Weiner, MD, and Nicholas Zavazava, MD.

Body:

Recruitment and Admission:

Brochures, application forms, and posters were designed and printed and sent to Dr. Swinton at Lincoln and one of the faculty mentors PI traveled to Lincoln University in February 2009, met with Dr. Swinton, Dr. John Chikwem, and the Chairmen of the Departments of Chemistry and Biology. Presentations were made about the summer training program to three groups of students at the beginning of their classes. Fourteen applications were received and reviewed by the Admissions Committee whose membership consisted of Dr. Lubaroff, Dr. Heidger, Dr. Henry, Dr. Domann, and Dr. Swinton. Admission was offered to a total of eight students for the summer of 2009. At the last moment, prior to the beginning of the 2009 session, one student had to drop out for personal reasons, leaving seven students supported by the two awards.

Students Participating in the 2009 Program:

Kaylene Baugh
Christina Chisholm
Seme Diallo
Elizabeth Okyne
Stephen Sangster
Keyana Tyree
Neja White

Students Accepted for the 2009 Program

Theresa Akede
Christiana Awoyemi
Stephen Sangster
Stephanie Rand
Danielle McKnight
Jhanelle Markes
Danielle Holsey
Chalwe Diallo
Nakita Brown
Kaylene Baugh

Advance Preparation and Information Distribution:

Following acceptance of the students into the program we assigned each student a mentor based upon his/her choices listed in their applications. Each mentor then assigned a member of the lab as a “big brother/big sister,” a person that partners with the student during the 8 week summer session. The mentor also prepared a portfolio of articles covering the area of research the student would be working on, including published papers by the mentor. These materials were sent to the students in advance of their arrival at the University of Iowa.

A six week course on Prostate Cancer was organized with six faculty assigned to deliver lectures. The following represents the course schedule with lecturers:

Iowa-Lincoln Summer Research Training Program – 2009
Prostate Cancer Course
9:00am – 10:00am
Room 3240 MERF

Lecture	Date	Subject	Lecturer
Week 1	June 16	Introduction to cancer	Spitz
Week 2	June 23	Basic aspects of prostate cancer	Dahmouch
Week 3	June 30	Genetics of prostate cancer	Henry
Week 4	July 7	Epidemiology of prostate cancer	Dennis
Week 5	July 14	Clinical Treatment of prostate cancer	Vaena
Week 6	July 21	Immunotherapy of prostate cancer	Lubaroff

The course planned for the summer of 2010:

Iowa-Lincoln Summer Research Training Program - 2010
Prostate Cancer Course
Room 3240 MERF

Lecture	Date	Subject	Lecturer
Week 1	June 15	Epidemiology of prostate cancer	Dennis
Week 2	June 22	Introduction to cancer	Spitz
Week 3	June 29	Basic aspects of prostate cancer	Dahmouch
Week 4	July 6	Genetics of prostate cancer	Domann
Week 5	July 13	Clinical treatment of prostate cancer	Vaena
Week 6	July 20	Immunotherapy of prostate cancer	Lubaroff

Housing and meal plans were arranged in collaboration with the Iowa Biosciences Advantage Program (IBA). Lincoln students were paired with IBA students in the dormitory. Plans were also formulated to integrate workshops, lectures, and social events with other programs dedicated to the training of minority students, such as the Iowa Alliance for

Graduate Education and Professoriate (AGEP), CIC Iowa Summer Research Opportunities Program (SROP), and Iowa Biosciences Advantage (IBA) Program.

Program web sites:

IBA: <http://www.uiowa.edu/iba>

AGEP: <http://www.agep.iastate.edu>

SROP: <http://www.grad.uiowa.edu/students/SROP>

The Summer Program:

A welcoming summer picnic was held on the day of the student's arrival in Iowa City in conjunction with the other summer programs at the University of Iowa. The following day the students met with the PI, administrator, mentors, and big brothers/sisters for an orientation and then taken to the laboratory of their mentors to begin the summer research training program.

During the 8 week session each student worked diligently with his/her mentor and lab partner on the assigned research project. Each student had an independent project. They attended seminars, workshops, lab meetings, journal clubs and the weekly lectures in the program's prostate cancer course (see schedule above). During the seventh week the PI met individually with each student to evaluate his/her summer experience. The unanimous opinion was that the program was a success. The students indicated that they learned much about research, about prostate cancer, and about the advantages of a research career. At the end of the summer session each student presented their research as part of a poster session held during an afternoon of the last week. In addition to the poster presentations each student gave an oral summary of their research project to the mentors, big brothers/sisters, and other summer students. In addition to the mentoring the students received from their research lab and the PI, they received career counseling. We discussed the options for each of them based upon their experience and their desire for the type of future they envisioned for themselves. Among the topics discussed was graduate school versus medical school, their ultimate goals of research, patient care, and/or teaching.

All of the students attended the CIC Conference held July 24-26, 2009 at the University of Michigan, Ann Arbor, MI. Each student presented a poster of their research and participated in roundtable discussions with students from other CIC-associated institutions. Dr. Heidger accompanied the students on the trip. The conference planned for the summer of 2010 will be held at, July 23-25.

Follow-Up:

We made frequent contact with all of the students after their departure from the University of Iowa. The mentors, faculty advisors (Heidger and Swinton), and mentors, all had contact with the students since the end of the 2006 summer session. Many of the mentors were asked to write letters of reference for the students' applications to graduate schools. The following table reports on the current status of the 2006, 2007, 2008, and 2009 summer students.

Lincoln Student Follow-Up

Name	Year	Lab	School	Program or Current Year at Lincoln
Oluwaseun Adekanye	2006	Griffith	Penn State	medical school
Shaynah Browne	2006	Lubaroff	U. Mass	graduate school
Nikesha Haynes	2006	Henry	U. Rochester	graduate school
Shivaughn Johnson	2006	Field	Ross University Medical School	medical school; left and working
Briquel Sherman	2006	Zavazava	University of Michigan	graduate school
Shaan Spence	2006	Domann	U. South Florida	graduate school
				obtained MS degree, currently working in lab at Harvard.
Bisola Awoyemi	2007	Henry	Univ. of the District of Columbia	Drexel University
Seme Diallo	2007	Zavazava	graduate	working & applying to grad schools
Caroline Dias	2007	Chrischilles	working	graduate school (public health)
Titilope Idowu	2007	Domann	Morehouse College	graduate school
Patrick Ndungu	2007	Lubaroff	University of Iowa	will enter MPH program at Iowa
Elizabeth Okyne	2007	Spitz	Lincoln	graduate school
Katrina Probherbs	2007	Lutgendorf	?	graduate school
Bukola Fatunmbi	2008	Salem	U. Mass	graduate school
Katherine Foster	2008	Spitz	Fox Chase Cancer Center	working
Theon Francis	2008	Field	working	working - ?
Michelle Gray	2008	Lubaroff	Johns Hopkins	working in laboratory
Julia Greenfield	2008	Henry	U. Maryland	graduate school
Gladys Murage	2008	Domann	U. Mass	graduate school
				graduated; plans are for Americorp then med school
Brittany Stokes	2008	Griffith	Lincoln	senior
Stacy-Ann Wright	2008	Bickenbach	Lincoln	senior
Kaylene Baugh	2009	Janz	Lincoln	graduate school
Christina Chisolm	2009	Weiner	U. Mass	see 2007
Seme Diallo	2009	Bickenbach	Lincoln	see 2007
Elizabeth Okyne	2009	Spitz	Lincoln	senior; plans for MD/PhD program
Stephen Sangster	2009	Domann	Lincoln	graduate school
Keyana Tyree	2009	Salem	U. Mass	graduated; will work for 2 years at local hospital and apply for medical school for 2011
Neja White	2009	Schultz	Lincoln	

As is evident from the table, of the students that have graduated from Lincoln, 16 of the 25 (64%) have been accepted to, or enrolled in, graduate or medical schools. This is an excellent statistic. Of the students still enrolled at Lincoln all have applied for other summer research programs for the summer of 2010.

Key Research Accomplishments

Each of the students worked on research projects that were part of an overall program within the laboratory of their mentors. As such, it is difficult to identify key research accomplishments for each student research project. Continuation of the research program by each mentor will certainly produce important research findings, aided in part by the summer research of the Lincoln University students. What is key is the mentoring and counseling of the students to aid in their future as scientists in the area of prostate cancer research. The high percentage of the students that are graduate programs or medical schools is an outstanding accomplishment as these future scientists will most certainly provide key research accomplishments in the years to come.

Reportable Outcomes:

Although the students have not produced any publications from their 8 week research program, they have reported their findings to the University of Iowa faculty, to the faculty and students at Lincoln University, at national competitions and conferences.

Conclusion

The first year of this award was highly successful as evidenced by the amount of work accomplished by each student and by their motivation to continue in a science career. The PI applied, and received funding, for a second HBCU training grant that will enable us to accept additional students for the next 3 years, thus increasing the number of African American scientists in the area of prostate cancer.