

Lincoln University-Pennsylvania- Capability/Background

Lincoln University is a premier historically Black University that combines the best elements of a liberal arts and science-based undergraduate core curriculum, and selected graduate programs to meet the needs of those living in a highly technological and global society.

Lincoln University Mission Statement

Lincoln University, the oldest historically Black University, was founded in 1854 as the Ashmun Institute to educate young men of African descent for the ministry. It was renamed Lincoln University in 1866 after President Abraham Lincoln. It is one of four stated-related universities

In Pennsylvania and is administered by a Board of Trustees. It is the only University in Pennsylvania and one of only twenty Universities nationally where forty percent or more physics graduates are women. With an international focus, it provides a quality education and prepares its undergraduates and graduate students, on its main campus, its Graduate Studies Center, and through distance learning, to be leaders of the highest caliber. With a commitment to promoting technological sophistication for its students in all academic programs, Lincoln University takes pride in excellent teaching, scholarly activity and inspired learning. To foster in students an appreciation for competition and coexistence in the global marketplace, Lincoln University seeks to infuse its curricula with modules of instruction that require its students to recognize an international community of people and to understand moral ethical issues, human dimensions, and leadership challenges posed by technology.

Lincoln University--A History of Success

Established in 1854, Lincoln University has been a state-related institution since 1972. Located 45 miles southwest of Philadelphia, the University serves about 1500 undergraduate students, with an additional 500 students in its graduate programs. Over 90 percent of Lincoln students are African American. As the country's first historically Black University, Lincoln has been in the forefront of educating African Americans in science and engineering for over a century and has developed a tradition of Black leadership at both the national and international level.

During the first century of its existence, despite a student body that averaged only 100-300 students, Lincoln graduates comprised approximately 20% of the nation's African-American physicians and 10% of African-American attorneys; it produced 36 college presidents, and hundreds of professionals in other fields. Graduates of distinction include Thurgood Marshall, former justice of the US Supreme Court; Kwame Nkrumah, first president of Ghana; Nnamdi Azikiwe, first president of Nigeria; and Langston Hughes, world acclaimed poet. Distinguished graduates in the natural sciences include Hildrus Poindexter, medicine; George Nemethy, biochemistry; William Bennett, immunology; Carl Mansfield, nuclear medicine; Don Harris, pharmacology; Richard Rhodan, toxicology; Horace Judson, organic chemistry; and Joseph Reed, inorganic

chemistry. Lincoln University founded the scientific honor society Beta Kappa Chi in 1923, which now has chapters in 65 HBCUs throughout the country.

Lincoln's 1992, 2001, 2003 and 2004 Strategic Plans (3) underscore the University's commitment to assuring that students are not only literate about current advances in science, but are aware of the global impact that science will have in the 21st century. In fact, since 1987, Lincoln University presidents have identified the natural sciences and mathematics programs as a magnet of excellence, serving as a model for the entire university's plan to reposition Lincoln among the nation's very best small colleges and universities.

Student Characteristics The average SAT score and GPA of students admitted to Lincoln University is 881 and 2.82 respectively. Over 80% of our freshmen come from the inner cities of the states of Pennsylvania, New York, New Jersey, and Maryland. Approximately 98% of our freshmen are between the ages of 17 and 19, and about 70% of them come from single parent households with annual incomes less than \$50,000. Consequently, almost 80% of students enrolled at Lincoln express concern regarding their ability to support themselves in college (5) and 57% enrolled because they were offered financial assistance (5). For many minority students, the major impediment to going to college is financial.

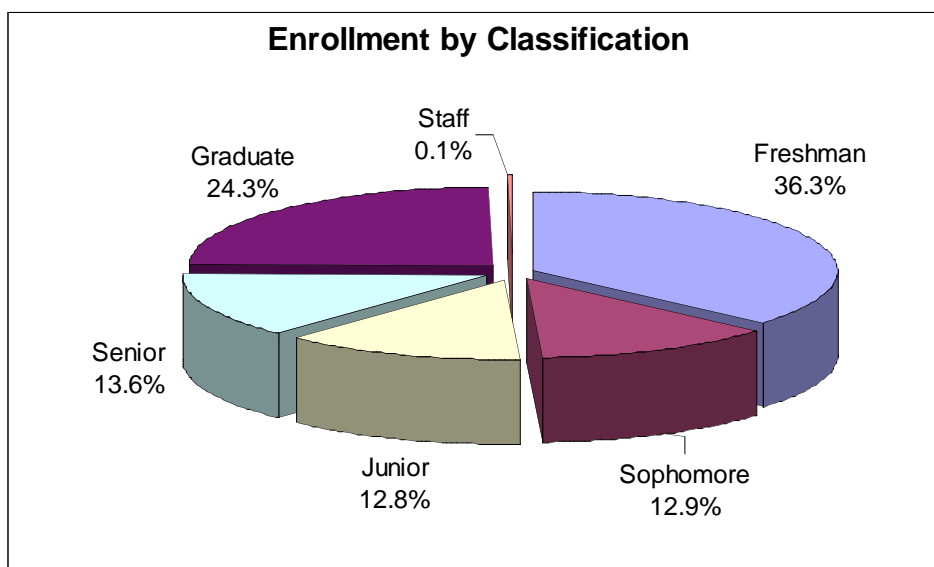


Fig 1

Fig 1 shows the 2004 enrollment by classification showing that the percentage of students are evenly distributed among sophomores, juniors and seniors; freshmen and graduate students comprise the majority.

Table 1

Full-time Equivalent (FTE) Enrollment Undergraduate Level					
STUDENTS	2000	2001	2002	2003	2004
Full-time	1,289	1,385	1,511	1,472	1,460
Part-time	19	34	26	20	26
TOTAL	1,308	1,419	1,537	1,492	1,486
Graduate Level					
STUDENTS	2000	2001	2002	2003	2004
Full-time	347	272	249	286	324
Part-time	95	95	103	72	101
TOTAL	442	367	352	358	425
Total FTE Enrollment					
STUDENTS	2000	2001	2002	2003	2004
Full-time	1,636	1,657	1,760	1,758	1,784
Part-time	114	129	129	92	127
TOTAL	1,750	1,786	1,889	1,850	1,911
Fall 2004 FTE Enrollment					
STUDENTS	2004		Total		
	M	F			
Undergraduate	614	872	1,486		
Graduate	152	273	425		
Total	765	1,146	1,911		

Continuing the Tradition of Excellence

Black Issues in Higher Education in 1994 ranked Lincoln third among HBCUs in awarding baccalaureate degrees in the physical sciences to African Americans, and in June 2001, Lincoln was ranked second (4). Lincoln's Science Technology, Engineering and Mathematics (STEM) success is largely due to well-established departmental programs and a cluster of special programs described below. The School of Natural Sciences and Mathematics includes the departments of Biology, Chemistry, Physics, and Mathematics/Computer Sciences. During the last 6 years (1999 – 2004), the division has graduated about 343 of the total 1357 graduates (25.28%). About 50% of these science graduates have gone on to graduate and professional schools. Lincoln

produces more minority STEM graduates than any major university in Pennsylvania. All departments in the division offer undergraduate studies leading to B.A./B.S. degrees and pre-professional programs. The School is staffed by 26 full-time faculty members, 13 with Ph.D., one with D.V.M., and nine with M.S. degrees (5). This is an experienced, first class faculty. The departments are well equipped for teaching and research; they emphasize the motivation necessary for students to pursue STEM careers and offer research, seminars and encouragement for students and faculty to attend professional meetings.

LASER-Lincoln's Advanced Science and Engineering Reinforcement Program. This unique intervention program was pioneered in 1981. It has been adopted as a model by numerous science and engineering enhancement programs nationwide. LASER recruited qualified high school graduates with interest in STEM, and provided a 10-week summer Bridge Program that offered a well structured curriculum and a supportive environment to help its students make a smooth transition, and counseling services, parent and mentor support groups, field trips, and guest seminars by minority professionals. Students earned up to 18 college STEM credits during the summer. LASER students received scholarships based on merit during the first two years; a select number of outstanding students received fellowships as juniors and seniors. LASER students participated in off-campus summer research and had an impressive rate of acceptance in advanced degree programs. LASER admitted over 350 students, with 92 graduating in the past six years. The graduation rate for LASER students was 80%. Over 70% of the LASER students earned at least a B (3.0) GPA each semester. Although LASER students constituted about 5% of the student body, they made up 20.2% of the graduates in the School of Natural Sciences and Mathematics (6). LASER was supported by Office of Naval Research (ONR), National Aeronautics and Space Administration (NASA), Department of Energy (DOE), National Security Agency (NSA), and Philadelphia Comprehensive Regional Center for Minorities (CRCM). Unfortunately, this unique program was phased out for lack of funding; the last group of students in this program graduated in 2005.

MARC-Minority Access to Research Careers Program. Lincoln University's MARC Program was designed to increase the number of well-prepared minority students who could compete successfully for acceptance into graduate programs leading to a doctoral degree in biomedical sciences. Started in 1983, MARC targeted talented junior STEM majors interested in graduate studies. All MARC students followed a carefully planned curriculum. They were required to participate in GRE workshops, field trips, journal club, biomedical research, guest lectures, poster sessions, and professional scientific meetings. Over 85 minority students participated in the MARC program. Of the 79 who completed the program, 10 have PhDs, 10 are MDs, and two have DDS, one graduated Pharm.D. 20 have master's degrees and 18 are in graduate schools (7). MARC was funded by National Institutes of Health (NIH).

MASTAP-Mathematics, Science, and Technology Awards for Teacher Education Program This Program provided mathematics, science, engineering and technology teachers with current knowledge and practices in the area of science and mathematics.

Started three years ago, this program brought the combined resources of Lincoln University and NASA education programs to area schools. This program provided multidisciplinary training for pre-service and in-service continuing education students seeking master's degrees in education with a concentration in Biology, Physics, Chemistry and Mathematics or certification to teach STEM courses in K-12 public and charter schools. More than fifty teachers benefited from the program.

Integration of technology in science and mathematics instruction. In the last three years, Lincoln University has aggressively pursued the integration of technology into the teaching of science and mathematics especially for introductory courses. WebCT is used extensively in developing and monitoring introductory gate-keeping courses in Physics, Chemistry, Biology, and Mathematics. Its application covers online quizzes, solutions to assignments, tests, grade-book and content modules. We are currently using WebCT in General Physics, Quantitative Analysis, Organic Chemistry, General Biology, General Microbiology, Linear Algebra, College Algebra, and Calculus.

LEAPS-Lincoln's Excellent Academic Program in Science. This program was started in September 2004 with the goal of recruiting 48 students into a summer bridge program. The first group of students to enter this program arrived Lincoln University in the summer of 2005. Students in the program earned up to 10 college credits and were groomed for success in college through mentoring, advising and tutoring. Unlike the LASER and MARC programs, the LEAPS program does not provide substantial incentives to attract talented minority students to enroll in Lincoln's science programs. .

Lincoln University offers a liberal arts and sciences-based undergraduate core curriculum and selected professional and graduate programs in an environment marked by small classes, quality instruction and a demonstrated concern for each student as an individual. Admission opportunities in education and leadership development are offered to the descendants of those historically denied the liberation of learning and who have demonstrated a potential for academic success. Lincoln University fosters a continuing relationship with its alumni and the employers of its graduates.

Embracing the classic concept of a university, the faculty, students, administration and trustees of Lincoln University recognize the primacy of the institution's three historic purposes:

- 1.To teach honestly, and without fear of censure, what humankind has painfully and persistently learned about the environment and people;
2. To preserve this knowledge for the future; and
- 3.To add to this store of knowledge, Lincoln University remains committed to its' historical purpose and to preserving its' distinction as an intellectual and cultural resource for this region.

Current Status of Research/Institutional Environment-OFFICE OF RESEARCH DEVELOPMENT, PLANNING AND COORDINATION (ORDPC)

ORDPC was established by a grant from NICHD/NIH in 2003 for the purpose of fostering and institutionalizing research as an integral component of Lincoln University's

intellectual environment, and to assist in the development of a workable research infrastructure at the University. ORDPC is designed to assist faculty and students by providing opportunities for engaging in research that focuses on broadening knowledge within specific discipline-oriented content areas.

Specifically, ORDPC was established to achieve the following objectives:

1. Disseminate information regarding grants, cooperative agreements, and contract availability.
2. Assist faculty in the application process for grants, contracts, internships, and research fellowships.
3. Provide technical expertise regarding conceptual, methodological, and statistical issues relating to proposal submission and later in the analysis of data for writing and publication.
4. Assist in the preparation of research reports submitted for consideration by internal and external advisory boards.
5. In coordination with the Office of Sponsored Programs and Continuing Education (OSP/CE), develop and coordinate periodic workshops on craftsmanship for staff and students.
6. Provide faculty and students with an opportunity to be exposed to established researchers who are willing to share their expertise and work with faculty as Co-Investigators.
7. Facilitate research collaborations between the Lincoln community and local and regional agencies, organizations, and larger research institutions.
8. In coordination with OSP/CE, establish a faculty profile, then circulate to appropriate foundations and associations in order to increase the number of faculty members serving on review panels for organizations that award grants.
9. Maintain updated announcements of foundations, e.g., Kellogg, Rockefeller, Robert Wood Johnson, and Kaiser, so that faculty members can easily access their priority areas of funding.
10. Maintain updated resumes (NIH Form 398) to reduce response time to appropriate Requests for Applications (RFAs), Requests for Proposals (RFPs) and Requests for Cooperative Agreements (RFCAs).

ORDPC, working with the Faculty Oversight Committee and the Institutional Review Board, has established a review process to improve the overall research infrastructure

at Lincoln, thus improving the overall quality of the academic research experience for faculty and students.

To prepare for this program, several elements were put in place, namely:

Organizational Structure of ORDPC

- (a.) Established and convened Advisory Committee with Internal and External members
- (b.) Established and convened a Faculty Research/Oversight Committee

Office of Sponsored Programs and Continuing Education

The Office of Sponsored Programs and Continuing Education assists research efforts by circulating general announcements of funding opportunities, maintaining (through contract) a Research Grants Database on Lincoln's Web site, and gathering and analyzing data related to the University's faculty, students, staff and programs. The director is a member of the ORDPC Advisory Committee.

Lincoln has a full time Compliance Officer to insure that the University complies with all Federal, State, and Local government requirements regarding all funds received and disbursed.

Institutional Review Board

Lincoln has in place an Institutional Review Board that approves all research proposals submitted internally as well as external applications for collaborative work with Lincoln involving human subjects. The IRB has received Federal-Wide Assurance (FWA) approval from the Office for Human Research Protection of the U. S. Department of Health and Human Services.

Information Technology Capability

Networking on the main campus is a combination of wired and wireless technologies. Internet access through direct network connections has been available to students and faculty from the labs and some residence halls. "Wi-fi everywhere" has been implemented; so wireless access is available from all dorms, classrooms, offices, meeting spaces, the cafeteria, the Chapel, and grassy areas on the main campus. From Lincoln's urban campus in Philadelphia (PA), a dedicated T1 circuit provides Internet access. From the main campus, three full T1s provide the pathway. Nearly all Lincoln faculty use technology in their daily teaching and research. One special faculty project of note is creation of a database for scholars and students to be able to access primary documents connected to African-American history. Fully detailed images are scanned and will be stored and disseminated over the Web. Software such as SPSS is readily available for all faculty and students.

Current Programs and Research Projects by LU Faculty

Lincoln's Excellent Academic Program in Science (LEAPS). LEAPS mentioned above is under the direction of Dr. John Chikwem, Dean of the School of Natural Sciences and Mathematics. The purpose of the five-year grant is to increase the number of undergraduate students entering and completing natural sciences studies, with the goal of moving into graduate programs.

Characterization of a Putative Plasma Membrane Vitamin D Receptor. This research project is funded by the National Institutes of Health (NIH). Dr. Susan Safford, Associate Professor of Biology, is the principal investigator. The study evaluates various expression constructs and transfected cell lines for development of an optimal system for studying the physiology of pmVDR. Results may help lead to the development of new bioactive sterols with improved therapeutic potential and fewer side effects such as hypercalcemia.

DNA Ligase Activation in Human Epidermal Keratinocytes following Damage to Cellular DNA and its Repair and the Mechanism of DNA Ligase Activation. The PI on this project is Dr. Ramachandra Bhat, funded by US Army Medical Research Institute of Chemical Defense – Maryland and the Pennsylvania Department of Health.

Racial Disparities in the Treatment of Mental Disorders: Co- PI Dr. Ishtai-Zee, Professor of Master of Human Services, with the University of Pennsylvania Center for Mental Health Services, Research and Policy.

University Seminar “Biotechnology and The Future of Science”

Incoming freshmen are required to take a three (3) credit University Seminar I course in the freshman year. Each department must offer this course whose content may change after the basic information (introduction to college, how to study effectively, history of the University, etc) has been taught. This course attracts both science and non-science majors and enables the departments to recruit non-science majors into the sciences. The Departments of Biology and Chemistry have both taught environmental science courses. The topics discussed include Genomics and Proteomics, nanotechnology, and issues regarding the role and impact of science both nationally and globally.

Increase Freshman/Sophomore Off-campus Research Applications

The science departments have been successful in encouraging STEM students to participate in undergraduate research activities, internal and external. Partnerships have been formed with major academic and governmental research institutions that have been active in STEM research. On average, 25-30 STEM students participate in summer research programs annually. In order to increase the number of freshman conducting off-campus research, more must be done. Our off-campus research is coordinated and evaluated. Dr. Robert Langley (Professor of Chemistry) and Dr. Susan Safford (Associate Professor of Biology) coordinate the activities of the Lincoln's pre-med program. Our goal is to continue to recruit talented underclassmen and prepare them to actively participate in undergraduate research with confidence.

Chemistry, Biology, Physics, and Mathematics Tutoring

In order to improve the class performance and understanding of the subject, tutoring sessions in General Chemistry, General Physics, General Biology and mathematics are held. These sessions for the Chemistry, Biology, and Physics majors are conducted in the evenings. Flyers are posted throughout the STEM departments and the STEM faculty distribute the flyer during the first day of class. The Chemistry and Physics tutoring sessions are held in one of the smaller classrooms in Wright Hall (home of the Physics and Chemistry Departments). The students taking the honors Chemistry and Physics courses as well as those taking the traditional chemistry and physics courses are asked to utilize the tutors. Biology tutorials are offered in Grim Hall (home of the Biology Department). Mathematics tutorials are offered for students needing help in Pre-calculus and Calculus. These sessions are held in the math lab during the evenings. The science tutoring sessions are lead by outstanding Chemistry, Biology, and Physics majors at Lincoln whereas professional math tutors lead the math tutorials. The math lab does not close until 11pm each night. Outstanding science majors are asked to serve as tutors. Additionally, the General Chemistry, General Biology and General Physics instructors are invited to serve as tutors one night per week.

Summer Internship Programs

STEM majors with 20 STEM credits or more and a GPA of 3.00 or higher are expected to participate in the Summer Internship Program. The School of Natural Sciences & Mathematics and the School of Social Sciences and Behavioral Studies have been very successful in obtaining summer research opportunities for their majors. For the period 1999 – 2002, 136 STEM majors participated in Lincoln's Summer Internship Program. The Summer Internship Program provides internships after the freshman, sophomore and junior years. Using Lincoln's participation in the Northeast Alliance (Lincoln, Rutgers, MIT, Princeton, Boston University, University of Massachusetts – Amherst), Philadelphia LS-AMP (Lincoln, Cheyney University, NJIT, Temple, University of Pennsylvania, University of Delaware, Delaware State, Community College of Philadelphia), and the faculty contacts with other institutions. In the Social Sciences and Behavioral Studies, the last five years have witnessed a tremendous growth in Internships particularly through the NIDA/NIH Summer Research Awards and more recently through NAFEO. Our students successfully were awarded Internships at University of Delaware, University of Pennsylvania, The Johns Hopkins University, University of Maryland, Harvard University, University of Texas Health Science Center, NIH–National Cancer Institute, University of Miami, Yale University, University of Chicago, National Research Development Institute (New York,) and Cincinnati Children's Hospital.

The faculty of aforementioned schools are noted because over the past few years they have been actively involved with and made commitments to assisting Lincoln University in strengthening its academic and research initiatives.

On-campus Research Projects

Several faculty members have on-campus research projects and collaborations with local research institutions. Dr. Susan Safford (Biology) recently received an NIH grant to conduct her research in collaboration with the University of Delaware. Dr. David

Royer (Biology) conducts research on environmental science using funds from his EPA grant. Dr. John Chikwem (Biology) and Dr. Delroy Loudon (Psychology) received funding from the Department of Defense-Naval Research Academy for their investigation of HIV/AIDS in the Nigerian Military. Drs. Loudon, Kinsey, Favor and Gaither-Hardy (psychology) are currently investigating the reliability and validity of HIV/AIDS instruments for use in developing countries. K. R. Bhat (Chemistry) is a research collaborator-US Army Medical Research Institute. He conducts research during the summer working at this facility. Drs. SubbaRao (Chemistry) and Langley (Chemistry) are conducting materials science research in collaboration with The Pennsylvania State University. Dr. Derrick Swinton has contacts with the University of Delaware.

Guest Lectures Series

Each year, STEM scientists are invited to Lincoln to present seminars. We expect to invite about twelve (12) scientists annually; an emphasis is placed upon obtaining a diverse selection of lecturers. The seminar series is usually held on Mondays during the academic year. They are open to all science. The sessions enable scientists to interact with Lincoln University faculty and students.

Annual Poster Session

Each year, the School of Natural Sciences and Mathematics holds a Poster Session. The School of Natural Sciences typically has 34 students per year conducting research each summer. Lincoln University is a member of the Philadelphia Alliance for Minority Participation (AMP) and AMP has an annual Poster Session. The University of Florida has invited Lincoln University to participate in their Annual Poster Session. The 2002 poster session held on our campus showcased research of 22 Lincoln STEM majors; 18 Lincoln students traveled to Gainesville Florida to present at the UF REU Poster Session; and 12 out of the 36 posters presented at the 2003 Annual AMP Poster Session were from Lincoln. These sessions enable Lincoln students to interact with other minority and non-minority STEM majors from other institutions. In addition, the students have the opportunity to interact with faculty from these institutions and discuss graduate school opportunities.

Health HIV/AIDS Activities and Experience

Several faculty members were involved in the evaluation of the Pediatric Aids Project in Philadelphia through funding received from the Pew Charitable Trust and HHS. More recently Lincoln received funding from the US Naval Health Research Center (NHRC) HIV/AIDS Program for the conduct of research on HIV/AIDS in the Nigerian military in Nigeria, namely:

- Increasing the Involvement and Awareness of Nigerian Military Personnel in Prevention and Control of Human Immunodeficiency Virus
- Consolidating Peer Health Education for HIV/AIDS Prevention in the Nigerian Military

Lincoln is a member of the Historically Black Colleges and Universities (HBCU) Consortium with Northrop Grumman as strategic partners for twinning projects (MCT of HIV/AIDS in Namibia) submitted to USAID. Further, Lincoln Faculty developed and submitted through the HBCU Consortium a proposal on HIV Prevention in Liberia to USAID. In June 2004, Lincoln hosted a meeting of HBCUs from across the country focusing on strengthening the Institutional Capability for Partnership with USAID and its Partners. In 1997 the University established an HIV/AIDS policy and offers a seminar course on HIV/AIDS taught by Dean Chikwem. The University offers a number of courses in health such as Race, Ethnicity and Health; and Health Psychology (taught in the Department of Psychology) and Health Promotion; Personal and Community Health; Disease Prevention and Research and Evaluation (taught by the department of Health Physical Education and Recreation)

Lincoln University, recognizing the importance of health promotion and disease prevention in its student population, has recently established two initiatives:

The Women's Center

The mission of the Women's Center is to promote and assist students in making healthy, positive lifestyle choices in six dimensions of human development. These dimensions are known as "S.P.I.C.E.S.," the flavor of wellness. "SPICES" is an acronym for Spiritual, Physical, Intellectual, Cultural, Emotional, and Social. The Center provides individual and group counseling along with programs and activities that result in self-improvement and self-empowerment. Other activities include a newsletter and workshops focusing on health related issues, including health promotion and disease prevention. The Women's Center has sponsored training sessions with community-based organizations (CBOs) such as Planned Parenthood of Chester County on sexual transmitted infections (STIs) and HIV/AIDS. With the Advocates for Youth, a Washington, DC-based CBO, the Women's Center staff explored participants' personal beliefs and attitudes toward gay, lesbian, bisexual, transgender and questioning (GLBTQ) youth and identified strategies for working with GLBTQ students. Other areas covered in the Women's Center include: overweight and obesity – "Fit or Fat," an active exercise and weight loss program; depression; self-care and empowerment; campus sexual violence and prevention; stress and stress management – including tips for stress management; and reproductive health issues

The Office of Minority Male Health – Fitness, Education, Nutrition – "Putting the pieces together to develop healthy lifestyles."

The Office of Minority Male Health (OMMH) at Lincoln University has been assigned the role of coordinating community outreach, health education and training components of a project sponsored by the New Minority Male Consortium Incorporated. As a recipient of funding from the National Minority Male Health Project, the office collaborates with campus organizations as well as community agencies in Chester and Philadelphia Counties to encourage healthy lifestyles specifically among minority males. Through partnerships with high schools, community and faith-based organizations, OMMH seeks to: increase the level of awareness about chronic illnesses, particularly those most

affecting minority males; Introduce strategies for effective stress management among the target group; provide nutrition education and physical fitness education; and provide information regarding the health risks associated with smoking, drugs, and alcohol use and abuse.

OMMH publishes a newsletter called the “Masculine.” Recent issues focused on checkups and screening – physical exam; blood pressure; nutrition and food myths; bipolar disorder; drug use and abuse on campus. A recent issue of the newsletter provided a section on “Did You Know,” which provides statistics on life expectancy in the Black community covering cardiovascular disease, cancer, homicide, strokes and diabetes. The staff recently completed a student health behavior and risk survey. OMMH was awarded a grant with the University of Pittsburgh examining bipolar disorder in African American Males.

Linkages and Collaborations

Lincoln University has been involved with several partners, including majority and minority institutions, in an effort to ensure that students enrolled at Lincoln get sufficient exposure especially with research before graduation. These collaborations also expose students to experiences that guarantee their interests to pursue graduate and research careers. Lincoln is part of the Northeast Alliance for Graduate Education and Professorate, which includes the University of Massachusetts, Rutgers University, Boston College, North Eastern University, Massachusetts Institute of Technology, and Penn State University College of Medicine. Lincoln is also part of the Philadelphia Alliance for Minority Participation, which includes Drexel University, Cheyney University, University of Pennsylvania, Delaware State University, New Jersey Institute of Technology, Temple University, University of Delaware, and the Community College of Philadelphia. We have also developed relationships for summer research experience with the University of Florida and the Wadsworth Institute. Lastly, we have agreements with Drexel University, Pennsylvania State University, New Jersey Institute of Technology, and the University of Delaware regarding 3 + 2 engineering programs. All these alliances and partnerships ensure that our students are adequately exposed to the best teaching and research experiences before they graduate.

Lincoln University is a founding member of the Institute for Research Education and Training in Addictions (IRETA) located in Pittsburgh, working in partnership with the Pennsylvania Department of Health – Bureau of Drug and Alcohol Programs (BDAP). Its mission is to become a repository of information related to addiction research, health policy, prevention, intervention and treatment in the Commonwealth of Pennsylvania; and to develop effective mechanisms to translate that knowledge to the substance abuse field. IRETA works closely with the Pennsylvania Practice Improvement Collaborative (PIC), which is administered by IRETA, ensuring that research findings on health are effectively translated into practice. Both IRETA and PIC work in close collaboration with the Northeast Addiction Technology Transfer Center (NEATTAC) located in Pittsburgh, PA. It was designed to enhance the quality of addiction treatment and recovery services within the region by providing policymakers, providers, consumers and other stakeholders with state-of-the art information through technology

translation and transfer activities. This five-year initiative, funded by the Center for Substance Abuse Treatment (CSAT), is a part of a national network, comprised of 14 regional centers that serve all 50 states and the United States Territories. Dr. Loudon, Professor of Psychology and Director of ORDPC, has been a member from its inception.

University of Pittsburgh--Lincoln University is a partner with the University of Pittsburgh in a research program designed to examine the prevalence and incidence of bipolar disorder.

Drexel University--Lincoln University is an active partner with Drexel University as a subcontractor on a grant--Center for Excellence in Tobacco Research and Capacity Building. The Center is founded on a multidisciplinary collaborative research and capacity building partnership spanning academia, public health, and the private sector, with a mission to conduct and disseminate research that strengthens the state's tobacco use prevention and control programs and to train students and health department staff in tobacco research

Pennsylvania State University--Lincoln University recently signed a Memorandum of Understanding with the College of Medicine. It provides for faculty from both Institutions to work actively on joint research projects and for Lincoln's faculty to take advantage of laboratory and clinical facilities at Penn State. In addition, there is provision for Summer Undergraduate Research Internships at PSU and a yearly UPDATE Conference.

Recent Funding History/Grants and Contracts Table 11.

Term	Agency	Program	Total Amount	Duration years	PI/PD
2/14/03-2/13/06	U.S. Agency for International Development/UNCF Special Program	International Development Partnership Activity (IDP)—Nicaragua	\$200,000	3	Dr. Babatunde
1/1/03-6/30/07	Chester County Health Department	Stay Motivated and Reduce Teen Smoking (SMARTS)	\$130,000	5	Mr. Bailey
2/1/02-1/31/06	Pennsylvania Department of Health	Enhancing apoptosis by inhibiting DNA repair in cultured human cells	\$17,070	4	Dr. Bhat

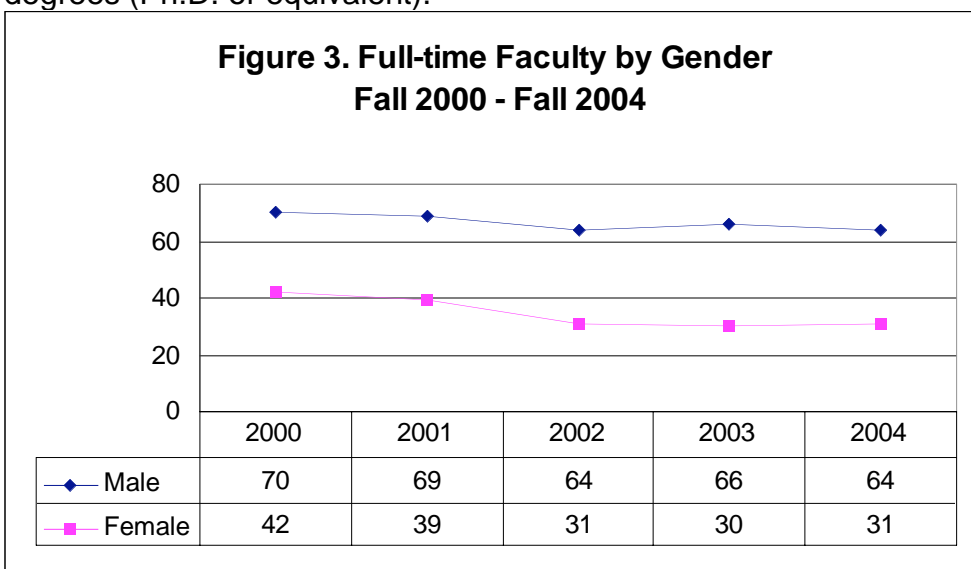
5/1/04-4/30/06	Pennsylvania Department of Health	Development of an Assay for Detection and Quantitation of DNA Double Strand Breaks in Cultured Human Fibroblasts	\$21,977	2	Dr. Bhat
9/1/04-8/31/08	National Science Foundation	Lincoln's Excellent Academic Program in Science	\$2,397,450	5	Dr. Chikwem
1/9/04-9/30/06	National Science Foundation/LaSalle University	Mathematics and Science Partnership of Greater Philadelphia	\$182,850	3	Dr. Chikwem
10/1/01-9/30/02	U.S. Department of Defense	HIV/AIDS Prevention in Nigerian Military	\$298,965	1	Dr. Chikwem/Dr. Louden
11/1/02-9/30/03	U. S. Department of Defense	HIV/AIDS educational project (Nigeria)	\$299,033	1	Dr. Chikwem/Dr. Louden
9/02-8/05	National Aeronautics and Space Administration (NASA)	Minority University Mathematics, Science and Technology Awards for Teacher and Curriculum Enhancement Program (MASTAP)	\$598,446	3	Dr. Greene
3/1/03-2/28/06	Pennsylvania Department of Health/University of Pennsylvania	Philadelphia Consortium on Psychiatric Disparities	\$238,874	3	Dr. Ishtai-Zee
11/1/03-10/31-04	National Science Foundation/Drexel University	Alliance for Minority Participation (AMP)	\$22,383	1	Dr. Langley
10/1/99-6/30/05	Office of Naval Research	Lincoln Advanced Science and	\$1,500,000	1	Dr. Langley

		Engineering Reinforcement Program (LASER)			
2/1/03-1/31/08	National Institutes of Health	Extramural Associates Research Development Award (EARDA)	\$248,400	5	Dr. Louden
5/16/02-5/15/06	Federal Highway Administration/National Summer Transportation Institute	Summer Transportation Institute at Lincoln University	\$146,000	4	Dr. Ramdas
10/1/04-9/30/07	U.S. Department of Education/University of Maryland Eastern Shore	Initiation of Environmental Science Program	\$106,596	3	Dr. Royer
9/15/97-9/14/06	US Department of Energy/University of Delaware	Cycling of DOC and DON by Novel Heterotrophic and Photoheterotrophic Bacteria in the Ocean	\$264,192	9	Dr. Royer
5/17/02-4/30/07	National Institutes of Health	Characterization of a Putative Plasma Membrane Vitamin D Receptor	\$1,173,523	5	Dr. Safford
6/1/01-5/31/03	U.S. Agency for International Development/UNCF Special Programs	Education for Development and Democracy Initiative with University of Cocody	\$200,000	2	Dr. Sekoni
2/1/01-1/31/05	National Aeronautics and Space Administration/Pennsylvania State University	Analysis of Supplementary Vitamins with HPLC	\$46,200	4	Dr. SubbaRao
9/10/01-2/28/05	U.S. Department of the Army	Barriers to Early Detection of Breast Cancer Among African American Females over Age of 55	\$72,298	4	Dr. Smith
6/1/04-5/31/05	Environmental Protection Agency	Summer Environmental Academic	\$50,000	1	Dr. Swinton

		Program			
6/1/93-5/31/05	National Institutes of Health	Minority Access to Research Careers (MARC)	\$574,246	12	Dr. Swinton
1/1/05-12/31/05	Pennsylvania Department of Health	Quantitative Analysis of Nicotine and Its Metabolites Using HPLC	\$22,412	1	Dr. Swinton
2003-2006	Sloan Foundation	Feeder Program, Sloan Minority PhD Program at Lincoln University in the Chemistry Department	\$145,800	3	Dr. Swinton

Faculty

Lincoln University currently has 88 full-time faculty members in its three schools: Humanities and Graduate Studies, Natural Sciences and Mathematics, and Social Sciences and Behavioral Studies. Among them, 68 (77%) hold doctorate degrees, and 19 (22%) hold master's degrees as the highest degree earned. Fifty-four (46%) of them are in the senior ranks, Associate Professors and Professors. Currently (2005-06), there are 26 full-time faculty members in the science programs (Biology, Chemistry, Physics, and Mathematics and Computer Science). Fourteen (or 54%) are senior rank Associate Professors and Professors. Thirteen (or 50%) hold doctorate degrees (Ph.D. or equivalent).



The faculty has authored over 200 publications including peer-reviewed papers, book chapters, and books. Over the past 18 months the Faculty has received 30 grant awards totaling more than \$6.3 million with the Natural Sciences faculty receiving 16 grant awards totaling more than \$4.5 million. Lincoln's faculty has distinguished itself in many areas such as providing consultation to Federal, State Agencies and international organizations as well as serving on various non-governmental corporations in an advisory capacity. Faculty served at such Institutions as the UN, UNICEF, Addis Ababa University (through the United States Information Agency), the National Center for Educational Statistics; Pennsylvania Department of Education; The Family Planning Council of Southeastern Pennsylvania; Central State University- Minority Male Consortium; HBCU Psychology Consortium through sponsorship of the National Science Foundation, Jennersville Regional Medical Center and the Jenner's Pond Continuing Care Retirement Community. Many faculty members are the recipients of honors such as Fulbright Scholarships and the Lindback Distinguished Teaching Award, and are often selected to act as grant reviewers for HRSA and SAMHSA.

Library Services to Faculty:

Also provided to support faculty research is the Langston Hughes Memorial Library that subscribes to several major journals in education and related fields including the New England Journal of Medicine (approximately 700 periodicals). This Library is interfaced with the faculty, so that the faculty has ready and immediate access to new information. With the library are 16 support staff members that help faculty locate documents or arrange inter-library loans for rare books that are not available locally. The Library is named for one of Lincoln University's most famous graduates, the celebrated poet Langston Hughes. The Library houses a collection of more than 170,000 volumes and annually subscribes to approximately 700 periodicals. There are close to 10,257 microforms, 1,000 government publications, 18 computer files, 1,267 lineal feet of manuscripts and archival material, 24 maps, 12 graphics items and 2,643 audiovisual materials. There is also an extensive collection of materials representing all aspects of the Black experience, including African-American and African materials. A comprehensive range of reference, information, and educational services is offered throughout the library system.

Graduate School

Graduate programs are located at Lincoln's Graduate Studies Center on Market Street in Philadelphia. Lincoln University's Graduate Studies Center is the adult and continuing education destination in Center City. Surrounded by the home offices of major national corporations and just down the street from City Hall, the Center is near many of the city's cultural and entertainment resources. The Center's goal is to serve the credit and non-credit educational needs of area

corporations and their employees and to provide enrichment opportunities for Philadelphia area residents.