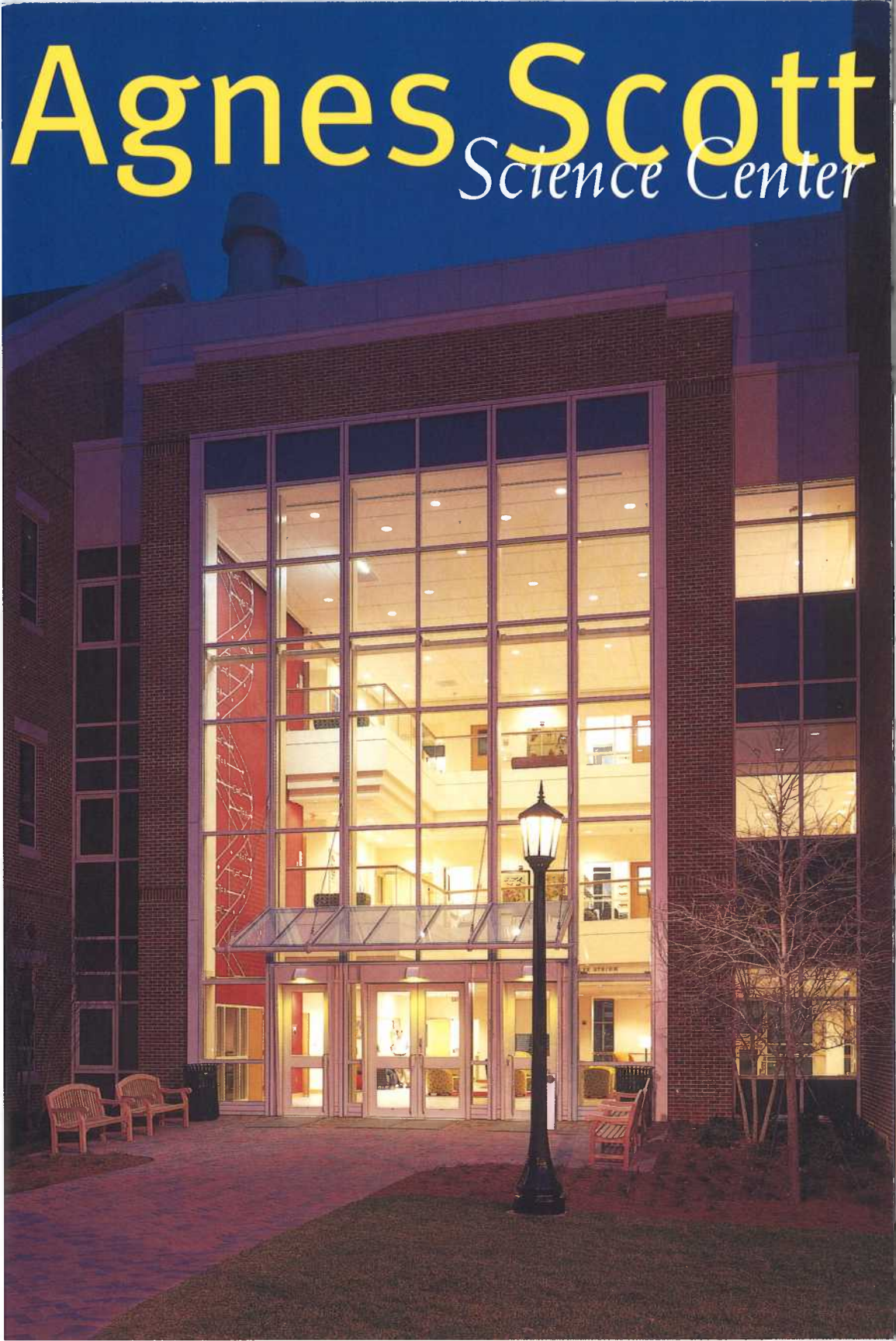
Agnes Scott

Science Center

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MARY STUART MACDOUGALL WITH STUDENTS

Leading science: it's in our genes

Enter the $36.5 million Science Center at Agnes Scott, and you'll encounter a three-story representation of the DNA double helix, perhaps the most significant discovery in the last half-century. The rendering of DNA swirling above the center's Woolford B. Baker Atrium holds special meaning for our institution because it was traced from Agnes Irvine Scott, for whom our College was named, through her great-great-great-great granddaughter Lisa Harvey Lepovetsky '73. Since Agnes Scott women tend to take more advanced science and math courses than their coed counterparts, since more than half of our 19 full-time professors in the sciences are women and since our alumnae include renowned scientific practitioners, we'd say leadership in science is embedded in the College's genetic code.

Part of Agnes Scott's unbroken line of female achievement in the sciences is Mary Stuart MacDougall. This demanding professor and co-author of *Biology: The Science of Life*—a textbook adopted by more than 90 institutions—proclaimed in 1936, "Science has so enlarged the mental horizon that the imagination may take a bolder flight." In our new Science Center, her intellectual heirs at the College can let their imaginations soar.

INTRODUCTORY CHEMISTRY LABORATORY

"Science has so enlarged the mental horizon

The structure of DNA had yet to be solved when Campbell Hall, the College's former science building, opened in 1951. In the ensuing decades, the scope of science has broadened dramatically while student interest at Agnes Scott has burgeoned. Today, more than 30 percent of students who have declared majors have opted for the sciences; and our Science Center, which houses the departments of biology, chemistry, physics and psychology, provides the instrumentation and support for a research-rich science program.

Physics Chair Arthur Bowling is excited by the "new pedagogical technology in our classrooms, such as document cameras and sophisticated projection systems, and the equipment budget that allows us to modernize our range of experiments." Chemistry Chair Lilia Harvey contends that "as a result of research-grade instrumentation, students' ability to learn about chemical processes is virtually limitless." And thanks to unprecedented lab space, reports Psychology Chair Barbara Blatchley, at least 10 different faculty and student-faculty research projects are running on topics ranging from the biology of depression to the effect of race on attitudes toward contraception and abortion.

Science Center Naming Opportunities

East Wing	$2,500,000
West Wing	$2,500,000

Ground Floor

Herbarium	$25,000
Faculty Offices A–C	$25,000
Faculty/Student Research Laboratories A–B	$50,000
Ecology and Environmental Biology Laboratory	$100,000
Student Project Laboratory	$100,000
Neuroscience Laboratory Suite	$150,000
Lecture Hall	$200,000, *fully funded*
Greenhouse	$200,000
Nuclear Magnetic Resonance Laboratory	$250,000
Microscopy Suite	$500,000

First Floor

Physics Faculty Offices A–B	$25,000
Psychology Computer Laboratories A–B	$25,000
Physics Faculty Research Laboratory	$50,000
Adjoining Seminar Rooms A–B	$50,000
Quantum Physics Laboratory	$100,000
Electronics Laboratory	$100,000
Introductory Physics Laboratory	$100,000
Physics Classrooms A–C	$100,000
LINUX Computer Laboratory	$100,000
Psychology Research Suites A–D	$150,000
Psychology Department Suite	$150,000
Atrium Lobby	$1,000,000, *fully funded*

Science Center Naming Opportunities

Second Floor

Biology Faculty Offices A–F	$25,000
Faculty/Student Biology Research Laboratories A–F	$50,000
Genetics and Molecular Biology Laboratory	$100,000
Molecular and Cellular Biochemistry Laboratory	$100,000
Cell and Developmental Biology Laboratory	$100,000
Animal Biology Laboratory	$100,000
Animal Physiology Laboratory	$100,000
Biology Student Project Laboratory	$100,000
Flexible Shared Classrooms A–B	$100,000
Biology Student Support Suite	$150,000

Third Floor

Chemistry Computer Laboratories A–B	$25,000
Chemistry Faculty Offices A–E	$25,000
Faculty/Student Chemistry Research Laboratories A–E	$50,000
Laser Spectroscopy Laboratory	$50,000, *fully funded*
Introductory Chemistry Laboratory	$100,000, *fully funded*
Physical and Analytical Chemistry Laboratory	$100,000
Organic Chemistry Laboratory	$100,000
Inorganic Chemistry Laboratory	$100,000
Biochemistry Laboratory	$100,000
Chemistry Instrumentation Laboratory	$100,000
Chemistry Classrooms A–B	$100,000
Chemistry Student Support Suite	$150,000

Science Center Highlights

Second Floor

- Six biology faculty offices are located near teaching and research laboratories.
- Six faculty/student biology research laboratories provide facilities for uninterrupted project work.
- The genetics and molecular biology laboratory allows investigation of modern molecular approaches in genetics and developmental biology.
- The molecular and cellular biochemistry laboratory supports the study of molecular biology, the biochemistry of cells and the biology of microorganisms.
- The cell and developmental biology laboratory adjoins two faculty/student biology research labs.
- The animal biology laboratory supports the study of structures and processes in invertebrates and vertebrates.
- The animal physiology laboratory is equipped for the study of animal physiology, animal behavior and neurobiology.
- The biology student project laboratory provides dedicated lab space for student experimentation.
- Two adjoining flexible-use, shared classrooms link four laboratories and permit data analysis during laboratory periods.
- A biology student support suite includes a student collaborative learning center and an office for teaching assistants who provide daily learning support.

Third Floor

- Two chemistry computer laboratories allow facilities for data collection and analysis.
- Five chemistry faculty offices are located near classrooms and laboratories.
- Five faculty/student chemistry research laboratories provide space for uninterrupted research projects.
- The physical and analytical chemistry laboratory provides facilities for junior chemistry and biochemistry majors.
- The organic chemistry laboratory allows second-year students to explore organic synthesis and isolation of commercially useful molecules from natural sources.
- The inorganic chemistry laboratory allows senior chemistry majors to explore the synthesis, isolation and characterization of transition metal complexes.
- The biochemistry laboratory will be utilized by students to study enzyme kinetics, amino acids and proteins.
- The multi-purpose chemistry instrumentation laboratory is used in almost all chemistry courses.
- Two chemistry classrooms are adjacent to teaching laboratories for integrating instruction with experiential learning.
- The chemistry student support suite includes a student collaborative learning center and an office for teaching assistants who provide daily learning support.

Science Center Highlights

Ground Floor

- The herbarium supports teaching and research in plant biology, ecology and environmental studies.
- Three faculty offices are located near faculty/student research labs.
- Two dedicated faculty/student research labs are adjacent to related teaching labs.
- The ecology and environmental biology laboratory is the main teaching laboratory for ecology, field botany and environmental science.
- The student project laboratory supports long-term projects in plant biology, ecology and environmental science.
- The neuroscience laboratory suite provides facilities for the Department of Psychology and supports psychology and biology interdisciplinary studies.
- The greenhouse creates controlled environments for plants and small aquatic organisms.
- The nuclear magnetic resonance laboratory facility houses the NMR instrument. NMR spectroscopy allows study of molecular systems and has applications in chemistry, physics and biology.
- The microscopy suite houses microscopes, a darkroom and a specimen preparation area to support studies of cells, tissues and organisms.

First Floor

- Two physics faculty offices are located near classroom and research facilities.
- Two psychology data analysis computer labs provide workstations for faculty and students working in adjacent observation suites and research facilities.
- The physics faculty research laboratory allows faculty members to conduct scholarly research without sharing equipment or space.
- Adjoining seminar rooms provide facilities that can be organized for workshops, seminars and other events.
- The quantum physics laboratory allows students to perform some of the classic experiments of contemporary physics including the theory of quantum mechanics.
- The electronics laboratory allows chemistry and physics students to study the electronics instrumentation that underlies most of their experimental work.
- The introductory physics laboratory engages beginning students and illustrates the importance of testing theory by experimentation and measurement.
- Three technology-rich physics classrooms are designed to support diverse styles of teaching and learning.
- The LINUX computer laboratory contains 15 workstations for learning computer methods used in the sciences.
- The psychology research suites support faculty/student research and teaching.
- The Department of Psychology suite includes the departmental office and a waiting room for participants in experiments.

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KATY CLEMMER '03 USING TRANSMISSION ELECTRON MICROSCOPE

. . .*that the imagination*

In the words of Biology Chair Harry Wistrand, the discovery taking place in the new Science Center is "limited only by our minds." For instance, students collaborating with Charles A. Dana Professor of Biology Sandra Bowden in researching soil bacterial communities are using the center's instrumentation to address such tremendous questions as: *What can we learn about the evolution of life on Earth from the genetic information and the cellular structures and processes of soil bacteria? What are the contributions of soil bacteria to ecosystems, including the global ecosystem?* "Our research involves using light microscopes, chromatography instruments, a thermal cycler for the polymerase chain reaction, gel electrophoresis equipment, DNA sequencing apparatus and computerized bioinformatics databases," says Katy Clemmer '03.

Such hands-on research gives Agnes Scott students a competitive edge. Just ask Sue Jinks-Robertson '77, professor of biology at Emory University. "A significant undergraduate research experience is one of the best indicators for success in our Emory Ph.D. programs," she declares. The center gives the College an edge, as well. Bowden notes, "There are no highly rated liberal arts colleges without excellent science programs."

WOOLFORD B. BAKER ATRIUM

. . .may take a bolder flight."
– MARY STUART MACDOUGALL

The new center positions Agnes Scott to pursue ambitious goals in science. Upcoming initiatives include our Science Center for Women and Sally Ride Science Camp for Girls. We also plan to strengthen our connections to the larger scientific community by hosting events such as the South's first Project Kaleidoscope Undergraduate Research Conference and by inaugurating a Science Speakers Series. Still, because we are a liberal arts institution, the center embraces more than one discipline. President Mary Brown Bullock '66 explains: "Liberal learning assumes the integration of scientific and ethical concepts, scientific and aesthetic concepts, scientific and social concepts. And so this building is designed to bring us together."

Each lab in the Science Center is thus windowed into a corridor, inviting passers-by to view experiments in progress; and the building welcomes every member of the Agnes Scott community to contemplate the art adorning its walls, to relax in its Baker Atrium and to consider the great questions facing us all. Whatever the focus of our discussion, Agnes Scott's Science Center serves as a launching pad for exploration, supporting our collaborative analysis, logical steps and exhilarating intuitive leaps.

Features

Ground Floor
Herbarium
Biology Faculty Offices
Biology Faculty/Student Research Labs
Ecology & Environmental Biology Lab
Student Project Lab
Neuroscience Lab Suite
Teasley Lecture Hall
Greenhouse
Nuclear Magnetic Resonance Lab
Microscopy Suite
Psychology Faculty/Student Research Labs
Glassware wash/sterilization facility
Chemical Stockroom

First Floor
Physics Faculty Offices
Physics Workshop
Psychology Computer Labs
Physics Faculty Research Lab
Adjoining Seminar Rooms
Quantum Physics Lab
Electronics Lab
Introductory Physics Lab
Classrooms
Scientific Computing Lab
Psychology Research Suites
Psychology Department Suite
Science Center for Women
Woolford B. Baker Atrium

Second Floor
Biology Faculty Offices
Biology Faculty/Student Research Labs
Genetics & Molecular Biology Lab
Cell Biochemistry & Microbiology Lab
Cell Biology/Developmental Biology Lab
Animal Biology Lab
Animal Physiology/Neurobiology Lab
Biology Student Project Lab
Flexible Shared Classrooms
Biology Student Support Suite
Biology Department Office
Biology Lab Preparations
Biology Instrument Rooms
Clean Room/Tissue Culture
Warm/Cold Rooms

Third Floor
Chemistry Computer Lab
Chemistry Faculty Offices
Chemistry Faculty/Student Research Lab
Laser Spectroscopy Lab
Introductory Chemistry Lab
Physical and Analytical Chemistry Lab
Organic Chemistry Lab
Inorganic Chemistry Lab
Biochemistry Lab
Chemistry Instrumentation Lab
Classrooms
Chemistry Student Support Suite
Chemistry Department Office
Chemistry Balance Room

The Building in Brief

Departments of Biology, Chemistry, Psychology and Physics (the astronomy part of the astronomy and physics department is housed in the newly renovated and expanded Bradley Observatory and Delafield Planetarium)

115,000+ square feet with "racetrack" floor plan, placing shared resources in the center of the building's wings, with labs and classrooms around the perimeter

$4 million in state-of-the-art instrumentation, including:

- X-ray spectrometer, which allows quantum mechanics experiments of many sorts using X-rays as the probe
- Nuclear magnetic resonance instrument for investigation of the phenomenon of NMR—the basis of MRI medical imaging instruments
- Scanning tunneling microscope and atomic force microscope, used to study topography, conductivity, reactivity and hardness of surfaces or of molecules attached to surfaces at the atomic and molecular level
- Walk-in cold and warm rooms and environmental plant growth chambers, which provide controlled conditions for experimentation
- Confocal laser fluorescent microscope for three-dimensional digital cell imaging; scanning electron microscope and transmission electron microscope for ultrafine resolution of cells and organisms
- Eight computer-controlled Skinner boxes used to examine learning in animals
- Eye-tracking system that monitors and maps eye position in relation to computer imaging

Architect: Shepley Bulfinch Richardson and Abbott
Construction Management: Brasfield & Gorrie
Program Management: Carter & Associates
Laboratory Planning/Design Consultant: Research Facilities Design
Landscape Architect: Roy Ashley and Associates
Photography: Kieran Reynolds, Marilyn Suriani

AGNES SCOTT COLLEGE

THE WORLD FOR WOMEN

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