The youngest of the nation’s leading medical schools, Duke University School of Medicine is one of the nation’s premier schools for medical education, clinical care and biomedical research. Planning for the school began in 1925, when businessman James Buchanan Duke, benefactor of Duke University and The Duke Endowment, bequeathed $4 million to establish the Duke School of Medicine, the Duke School of Nursing and Duke Hospital. Less than five years after the school opened in 1930, the Association of American Medical Colleges ranked Duke in the top quarter of medical schools in the country. Now, more than 80 years later, the Duke University School of Medicine is still ranked among the leading medical schools in the nation. The School of Medicine employs more than 2,200 regular rank faculty physicians and researchers. The School of Medicine, Duke University Health System, School of Nursing, and the PDC comprise Duke Health.
Robert Lefkowitz, MD, professor of medicine and a Howard Hughes Medical Institute investigator, has spent his entire 44-year research career at Duke. In 2012, he was awarded the Nobel Prize in Chemistry with Brian K. Kobilka, MD, of Stanford University School of Medicine, who was a post-doctoral fellow in Dr. Lefkowitz’s lab in the 1980s. They were recognized for their work on a class of cell surface receptors that have become the target of prescription drugs, including antihistamines, ulcer drugs and beta blockers to relieve hypertension, angina and coronary disease.

NOBEL LAUREATES

Paul Modrich, PhD, professor of biochemistry and a Howard Hughes Medical Institute investigator, was awarded the Nobel Prize in Chemistry in 2015 along with Tomas Lindahl, MD, PhD, of the Francis Crick Institute and Clare Hall Laboratory in the UK, and Aziz Sancar, MD, PhD, of University of North Carolina at Chapel Hill, for mechanistic studies of DNA repair. The trio was honored for mapping, at a molecular level, how cells repair damaged DNA and safeguard the genetic information. According to the Nobel Foundation, their work has provided fundamental knowledge of how a living cell functions and is, for instance, used for the development of new cancer treatments.
The School of Medicine

The School of Medicine includes the research efforts of basic and clinical faculty members in 37 departments, centers and institutes. Their combined efforts make Duke one of the largest biomedical research enterprises in the country, with nearly $700 million in sponsored research expenditures annually.

During Fiscal Year 2017, nearly 18,000 patients participated in 1,552 active clinical research studies at Duke.

Duke is home to the world’s largest academic clinical research organization, the Duke Clinical Research Institute, which has conducted studies at more than 37,000 sites in 65 countries, enrolling more than 1.2 million patients and generating more than 7,300 publications in peer-reviewed journals.

RESEARCH

DUKE HAS BLAZED TRAILS IN MEDICINE FOR MORE THAN SEVEN DECADES.

1936
Duke surgeon J. Deryl Hart, MD, introduces ultraviolet lamps into operating rooms to kill airborne germs that cause post-operative staph infections dramatically reducing the number of infections and related deaths.

1950
Duke pediatrician, Jay Arena, MD, leads the push for drug companies to develop the child-proof safety cap for medicine bottles.

1959
Duke becomes first to use systemic hypothermia during cardiac surgery. This technique of cooling patients to minimize tissue damage during lengthy surgical procedures is now standard practice worldwide.

1968
Irwin Fridovich, PhD, and graduate student Joe McCord discover the enzyme superoxide dismutase, which protects all living things against the toxicity of oxygen.

1981
Pediatric immunologist Rebecca Buckley, MD, uses bone marrow transplantation to cure severe combined immunodeficiency, also known as “bubble boy disease.”

1982
Duke biophysicist Jane Richardson’s ribbon diagram, a method of representing the 3D structure of proteins, is first published.

EDUCATION

- The Duke University School of Medicine’s unique curriculum allows medical students to study the core basic sciences for one year instead of two, giving them the opportunity to devote their entire third year to a scholarly research project. Students care for patients during their second year core rotations, a full year earlier than peers at most other medical schools.

- The School of Medicine offers a unique 4-year Primary Care Leadership Track to train leaders who can enter residency prepared to engage with communities and practices to help improve health outcomes. The track builds on the longstanding partnership between Duke and the Durham community so students can better understand causes of health disparities, create a strong research focus on community engagement, and learn how to redesign clinical programs to better serve the patient needs.

- In 2015, the School of Medicine launched the Master of Biomedical Sciences program. During this one-year program, students learn the language of human medicine as well as the context of clinical care. The goal of the program is to enhance the scientific and professional preparation of students aspiring to a career in the health professions or in a related field requiring graduate level biomedical sciences.

- Approximately 16 percent of Duke medical students are enrolled in the Medical Scientist Training Program (MSTP), which culminates in both a medical degree (MD) and a doctoral degree (PhD). The majority of MSTP students pursue degrees in biomedical science and engineering although students have earned their PhD degrees in the social sciences as well. Of the 46 such programs funded by the National Institutes of Health (NIH), the Duke MSTP was the fourth program established in 1966.

- Established in 1965, the Physicians Assistant Program at Duke is recognized as the birthplace of the PA profession. The program has been consistently ranked as one of the top programs in the nation, and currently is ranked No. 1 by U.S. News & World Report.

- Housed within the Duke Department of Orthopaedic Surgery, the Doctor of Physical Therapy (DPT) program at Duke is committed to producing the next generation of leaders in the field of physical therapy. This program also is consistently ranked among the best training programs in the nation, most recently ranked No. 10 in the country by U.S. News & World Report.

- The School of Medicine offers education programs internationally as well. Duke-NUS Graduate Medical School Singapore (Duke-NUS) is renowned for its pioneering approach to team-based learning and its signature research programs. Its inaugural class matriculated in August 2007 and graduated in 2011 with joint MD degrees from Duke and NUS. In 2010, the school launched a PhD program. Duke Kunshan University, a Sino-American partnership of Duke University and Wuhan University, offers a range of academic programs including a Master of Science in Medical Physics degree for students from China and throughout the world.
STUDENTS

<table>
<thead>
<tr>
<th>484</th>
<th>MD Students</th>
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<tbody>
<tr>
<td>665</td>
<td>Health Professional Students (PA, Pathology Assistant, Clinical Research Program, Clinical Leadership Program, Masters in Biostatistics, Doctor of Physical Therapy, Ophthalmic Tech, Masters in Medical Physics)</td>
</tr>
<tr>
<td>519</td>
<td>PhD Students in biomedical programs (MSTP students included)</td>
</tr>
<tr>
<td>1,043</td>
<td>Graduate Medical Education (Residents and Fellows)</td>
</tr>
<tr>
<td>332</td>
<td>Students at Duke-NUS Graduate Medical School (2017-18) (MD, MD/PhD, PhD students)</td>
</tr>
<tr>
<td>47</td>
<td>Duke Kunshan University (Master of Science in Medical Physics Program, Master of Science in Global Health Program)</td>
</tr>
</tbody>
</table>

2017 ENTERING CLASS (MD PROGRAM)

| 7,030 | AMCAS Applications |
| 116 | Students |
| 66 | women, 49 men, 1 unspecified |
| 36/518 | Median MCAT |
| 3.85 | Median Overall GPA |
| 3.85 | Median Science GPA |
| 13% | Under-represented minority students |
| 37 | States Represented |
| 59 | Undergraduate Institutions |

Applications to all biomedical graduate education programs are submitted to the Duke Graduate School. These programs are administered in the School of Medicine by the Office of Biomedical Graduate Education.

- Biochemistry
- Biostatistics & Bioinformatics
- Cell and Molecular Biology
- Cell Biology
- Cognitive Neuroscience
- Computational Biology and Bioinformatics
- Developmental & Stem Cell Biology
- Immunology
- Integrated Toxicology & Environmental Health
- Medical Physics
- Molecular Cancer Biology
- Molecular Genetics & Microbiology
- Neurobiology
- Pathology
- Pharmacology
- University Program in Genetics & Genomics

1985
Duke becomes one of two hospitals to conduct the first human clinical trials of AZT, the first drug to substantially improve quality of life for AIDS patients.

1990
Duke geneticists invent three-minute test to screen newborns for over 30 metabolic diseases at once. Though devastating if undetected, the diseases can be controlled once identified. The test is now used throughout the country.

1993
Pediatric immunologist Louise Markert, MD, PhD, uses thymus transplantation to cure once-fatal complete DiGeorge Syndrome. Duke scientists help to discover BRCA1, the gene responsible for many inherited forms of breast and ovarian cancers.

Duke Comprehensive Cancer Center (now Duke Cancer Institute) develops the nation’s first outpatient bone marrow transplantation program.

1994
Duke researchers are the first to use magnetic resonance spectroscopy to track levels of n-acetylaspartate (N-AA) as a marker for Alzheimer’s disease, proving that such a marker exists and that it can be detected via MRS.

1998
Duke Kunshan University
Duke researchers demonstrate for the first time that magnetic resonance technology could be used to observe the effects of a medication on brain structures, an important first step toward improving drug research for treating Alzheimer’s disease.

Researchers at Duke and Vanderbilt universities discover the first major gene known to determine an individual’s risk for developing age-related macular degeneration, the leading cause of visual impairment and legal blindness in the elderly.

Hai Yan, MD, PhD, and a team of scientists from Duke and Johns Hopkins universities identify mutations in a gene that make cells immortal and appear to play a pivotal role in three of the most common types of brain tumors, as well as cancers of the liver, tongue and urinary tract.

Bart Haynes, MD, leads the world’s largest HIV vaccine trial, which provides important clues about immune system responses that could play a role in protecting people from HIV infection.

Duke Receives $47 Million Award from NIH to support translational research.

### Duke University Health System

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>2003</td>
<td>Researchers at Duke and Vanderbilt universities discover the first major gene known to determine an individual’s risk for developing age-related macular degeneration, the leading cause of visual impairment and legal blindness in the elderly.</td>
</tr>
<tr>
<td>2005</td>
<td>The FDA approves Myozyme, the first lifesaving treatment for children with Pompe disease. The treatment was discovered and developed at Duke.</td>
</tr>
<tr>
<td>2006</td>
<td>Hai Yan, MD, PhD, and a team of scientists from Duke and Johns Hopkins universities identify mutations in a gene that make cells immortal and appear to play a pivotal role in three of the most common types of brain tumors, as well as cancers of the liver, tongue and urinary tract.</td>
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<td>2012</td>
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</table>
A mind-controlled robotic exoskeleton developed by Duke researcher Miguel Nicolelis, MD, PhD, is used by a paraplegic man to make a first kick at the Opening Ceremonies of the World Cup.

Duke researchers receive $15 million to support an innovative research program that explores the use of umbilical cord blood cells to treat autism, stroke, cerebral palsy and related brain disorders.

The FDA awards Duke “breakthrough therapy designation” for a poliovirus therapy for glioblastoma. The therapy was developed and is being tested by researchers at Duke’s Preston Robert Tisch Brain Tumor Center.

A Duke team, led by Linda Cendales, MD, performed the first hand transplant in NC, attaching the limb to a 54-year-old patient from Laredo, Texas, whose hand was severed in a childhood accident.

Duke works with many community partners to improve health care locally. Examples of outreach programs include:

- **Primary Care Wellness Centers within four Durham public schools**, serving mostly low-income youngsters at George Watts Elementary, Glenn Elementary, EK Powe Elementary, and Southern High Schools. Clinics operate during the school year and provide medical and mental health services. The elementary school clinics also provide bilingual mental health services. All four Wellness Centers offer medical coverage during weekends and school holidays.

- **Since 2002, Duke has hosted the Durham Health Summit.** Health Summits raise awareness of key health issues identified by the community and provide a platform to develop collaborative solutions to improve health outcomes in our community.

- **Partnership for a Healthy Durham** is a coalition of local agencies and communities with the goal of collaboratively improving the physical, mental, and social health and well-being of Durham residents. The program is housed in the Durham County Department of Public Health and focuses on six health priorities: obesity and chronic illness; access to medical and dental care; mental health and substance abuse; HIV and sexually transmitted infections; poverty; and education.

- **The Academic Success Through Surgical Education and Training (ASSET) program** is a partnership between the Duke University Department of Surgery and the Durham Nativity School. Through the program, faculty members in the Department of Surgery train and mentor students. This program aims to foster high achievement in science through surgical education for financially disadvantaged students.

- **The City of Medicine Academy** is a unique high school located in Durham that provides students with a challenging academic program while providing them with a broad overview of health professions and potential careers in medicine, science, and research. Resources across Duke University, the School of Medicine, and the Health System help maximize the student’s learning experience through summer internships, field trips, and after school. Duke University School of Medicine and Health System faculty, staff and students lend their expertise to projects and classroom lectures.
Duke’s Global Health Institute (DGHI) is a university-wide effort to address health disparities worldwide through multidisciplinary research, education, policy engagement, and service. It is one of many institutes that comprise the School of Medicine.

**RESEARCH**

- DGHI's research priorities include emerging infectious diseases; environmental health; health systems strengthening; cardiovascular disease and obesity; maternal, adolescent and child health; mental health and cancer.

- **Thirty Six percent** of the DGHI faculty members are from the School of Medicine.

- DGHI faculty members are leading more than 150 active global health research projects in more than 50 countries.

**GLOBAL OUTREACH**

Total number of student project placements in 2017: 119 student projects in 26 countries

**STUDENT FIELD PROJECTS**

1. Become the worldwide leader in interdisciplinary global health education
2. Catalyze and conduct innovative research that responds to the changing global burden of disease and influences policy
3. Create a robust network of international partners to exchange global health knowledge and skills

**DGHI’S PRIMARY GOALS**

DGHI’s education, research, and capacity building initiatives are built on a strong network of partnerships with institutions around the world in Priority Partnership Locations. These partnerships provide opportunities for faculty and students and are based on bidirectional, mutually-beneficial relationships. DGHI has invested in capacity-building, research, and education program development in a number of strategically-important locations:

- Beijing, China
- Kunshan, China
- Shanghai, China
- Leogane, Haiti
- Delhi, India
- Eldoret, Kenya
- Lima, Peru
- Singapore
- Galle, Sri Lanka
- Cape Town, South Africa
- Moshi, Tanzania
- Kampala, Uganda

**PRIORITY PARTNERSHIP LOCATIONS**
CORE VALUES OF DUKE UNIVERSITY SCHOOL OF MEDICINE

• Excellence in education, research and patient care
• Respect for and inclusion of people from all backgrounds
• Commitment to service, solving real world problems
• Sense of urgency in transforming discoveries into improved human health

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