

BIOMEDICAL PHYSICS

Medicine is about diagnosing diseases and treating patients, while **biomedical physics** is about research into the *next generation of life saving advancements and technologies*. Biomedical physicists apply physics concepts, theories and methods to *make new discoveries* in biology and *improve medicine* and healthcare.



WHERE CAN BIOMEDICAL PHYSICS TAKE YOU?

- You can discover what causes neurodegenerative diseases such as Parkinson's and Alzheimer's.
- You can prevent heart failure, muscular dystrophy and help develop exoskeletons for patients with brain and spinal injuries.
- You can guide the development of a new generation of pacemakers.
- You can develop optical tools and superresolution microscopes.
- You can work with neurologists to understand brain function and neuronal networks using electromagnetism.
- You can create new treatments for cancer with physics at the nanoscale.
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- You can help treat patients with radiation and develop new nuclear physics diagnostic tools.
- You can construct, evaluate and certify the safety and accuracy of devices including MRI, CAT, bone density scanners; and X-ray machines.
- You can create software for medical equipment and imaging systems.
- You can design new ultrasensitive detectors of disease markers.
- You can discover the structure and function of biological systems (tissues, cells and cellular components down to single molecule level – DNA, RNA, lipids and proteins).

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fastest growing >\$100k STEM job is **Physicist**. 19.8% growth last decade.

28%

growth last decade for **biophysicists**, more than 5x growth of all occupations.

50.1%

of Nebraska jobs growth next decade will be in health-related fields

\$120k

median salary for medical scientists, such as biomedical physicists.

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options with a flexible physics degree: medical, scientific, technical, and engineering careers.