# UNC Department of Biochemistry and Biophysics Video Transcript

## The Molecular Basis of Life

[Inspiring Music]

(Jean) The Department of Biochemistry and Biophysics here at UNC

is a vibrant collection of research teams that are highly successful

and we measure that success in a variety of ways -

the competitive funding awards to our faculty, students and postdocs,

the high graduation rate from our interdisciplinary Ph.D. program,

and the ground-breaking discoveries that we routinely share with the world.

Of course, that success comes from our people,

and since its establishment in 1935,

we've attracted individuals from a spectacular variety of backgrounds

that are all intensely curious about the molecular basis of life.

[Music continues]

(Wolfgang) Training, career-development and diversity are at the core of our program.

We offer exciting classes in a flexible curriculum within our two tracks,

the Biochemistry and Molecular Biology track, and the Molecular and Cellular Biophysics track.

(Jean) So within that Molecular Biology track, students choose courses in

Advanced Molecular Biology, Cell Biology, and the Biochemistry of Human Disease,

but within each of those topics, there are multiple courses for students to select,

and they make those choices based on their own research interests.

[Music continues]

(Brian) The Biophysics track in our department attracts students that are

particularly interested in the quantitative aspects of biology.

The curriculum is divided into two components -

A set of core modules that focus on

key principles that underlie macromolecular structure, function, dynamics,

and a set of elective courses that teach students different biophysical techniques

such as Cryo-EM, NMR and molecular modeling.

Students that join the program, join labs that research a variety of topics

including protein dynamics, RNA dynamics, protein design,

structural biology, signal transduction,

and the list, really goes on.

[Music continues]

(Shu) Both tracks offer extensive training on, not just biochemistry/biophysics,

but also on scientific communication.

So, we actually have a lot of training on presentation and grant writing classes,

and we all end up getting well-trained, well-versed

on how to communicate our science to different audiences.

(Wolfgang) We also have a strong focus on soft skills.

We provide our students with numerous leadership opportunities,

a vibrant social environment, and close interactions with our alumni.

(Shu) In addition, our department also holds regular seminars and research retreats,

so we are exposed, and regularly communicate with the wider science world.

(Nikea) So, I'm a structural biologist, and I really like how closely located

our core facility labs are to this building.

I use the Cryo-EM core facility a lot, and then also, the X-ray crystallography core.

The one thing that I really like about our core labs

is the level of knowledge that I gain from our lab directors.

I really look forward, any time that I get to meet with them,

because I know that we're going to have a good conversation,

and it's always really exciting to sit across the table and talk to another scientist,

about new experiments that we get to design and try out.

Our department has a really unique opportunity for postdocs.

Every postdoc is actually invited to attend chalk-talks,

whenever a potential faculty member is being interviewed.

So, I think it provides a great opportunity for us that sets us apart,

and really helps us start to think about next steps

for when we're ready for that stage of our career. [Music fades]

[Upbeat music begins]

(Brian) One of the things I love about our department is how collaborative it is -

several new projects in my lab startup because students have talked to each other,

come up with an idea, and then come to me and pitched me that idea,

and that's, that's really, started a new area of research in my lab.

(Shu) Since we all took similar classes in our first year,

this is a very close-knit and supportive community.

We all end up becoming good friends.

So you regularly see people from biochemistry/biophysics working with people from pharmacology or genetics.

And also, we have diverse type of people,

which is very important to me because that will bring a very diverse perspective,

not just in science, but in a life as well.

(Jean) The department continually invests in our people.

We provide resources and modern instrumentation to support the most cutting-edge projects.

But we're most proud of the fact

that we nurture a long-established culture of generous collaboration.

Our dedicated staff,

are also continually evolving our approaches to research administration, service and education,

by questioning old assumptions and examining fresh approaches.

(Wolfgang) It is also important to point out that within our area in North Carolina,

our students have great access to top-notch scientific institutions

embedded in the Research Triangle Park.

So, to me, this is a very special place for you to do your graduate studies,

and I encourage you to reach out to us and to explore our website

to learn more about the. Biochemistry and Biophysics program.

[Upbeat music continues]

(Jean) Discoveries are made by collective effort,

and UNC researchers in our department are embedded in a network

that spans the UNC campus, the country and the world.

Some of the best new treatments for devastating diseases

like cancer, heart disease, lung disease, and infections,

come from discoveries in basic sciences.

Together, we're all striving towards a common goal,

where UNC biochemists, biophysicists, molecular biologists,

contribute to new knowledge and inspire-in tomorrow's cures,

by decoding the molecular basis of life.

[Music fades out]