BIOCHEMISTRY BOOT CAMP
Mitchell Memorial Library Auditorium
June 7-9, 2021

PRELIMINARY PROGRAM OF EVENTS (Last Update: May 17, 2021)

All events are scheduled to take place in **Michell Memorial Library Auditorium (Room 1000)** unless otherwise noted. For updates and more information, please visit the Biochemistry Boot Camp website at https://fitzkee.chemistry.msstate.edu/bootcamp/.

Monday, June 7

Morning Session

8:00 am	"No-Frills" Breakfast Bagels, doughnuts, coffee, and juice **LOCATION TBD**	
9:00 am	Introductory Remarks	Nick Fitzkee
9:05 am	**Session 1:** Protein Structure Primary, secondary, tertiary structure; origins of function	Matt Thompson
10:20 am	Break	
10:30 am	**Session 2:** Protein Properties and Online-Databases Computer tools for understanding proteins; ExPASy, Entrez	Nick Fitzkee
11:50 am	Group Photo	
12:00 pm	Break for Lunch (on your own)	

Afternoon Session

1:30 pm	**Session 3:** Introduction to UNIX Filesystem, running programs, X-windows, working with files	Nick Fitzkee
2:50 pm	Break	
3:00 pm	**Session 4:** Model Fitting and GnuPlot Model basics, uncertainties and errors, chi-squared	Nick Fitzkee
4:30 pm	Discussion and Day 1 Wrap-Up **Take Home Lab:** GNUPlot for Chemists	Participants
5:00 pm	Break for Dinner (on your own)	

Tuesday, June 8

Morning Session

Session 5: Working in the Lab: Laboratory Safety and Waste Handling at MSU

9:00 am	Laboratory Safety	Sydnee Elmore, EHS
10:30 am	Break	
10:40 am	Chemical Waste Disposal at MSU	Ben Sharpe, EHS
11:00 am	**Session 6:** Publication-Quality Graphics Excel Tricks, Learning the GIMP and InkScape	Nick Fitzkee
11:50 am	Break for Lunch (on your own)	

Afternoon Session

1:00 pm	**Session 7:** DNA Structure and Properties Basic properties, PCR, predicting melting temperatures	Chris Johnson
1:50 pm	Break	
2:00 pm	**Session 8:** DNA Properties and Online Databases Predicting melting temperature, PCR, and cloning	Chris Johnson
2:50 pm	Break	
3:00 pm	**Session 9:** The PDB and Molecular Visualization Using PyMOL for analysis and figures	Nick Fitzkee
4:15 pm	Break	
4:30 pm	**Session 10:** Keeping a Lab Notebook	Dhanush Amarasekara
5:20 pm	Discussion and Day 2 Wrap-Up **Take Home Lab:** Practice Using PyMOL	Participants
5:30 pm	Break for Dinner (on your own)	

Wednesday, June 9

Morning Session

9:00 am	**Session 11:** Basic Bioinformatics Homology, sequence alignment, and BLAST	Nick Fitzkee
10:20 am	Break	
10:30 am	**Session 12:** Getting Started with Python A very basic introduction to programming and workflow	Nick Fitzkee
11:50 am	Break for Lunch (on your own)	

Afternoon Session

1:30 pm	**Session 13:** Literature Databases and EndNote Constructing a library, Getting a perfect bibliography	Joanna Xu
2:20 pm	Survey and Day 3 Wrap-Up	Participants