BIOCHEMISTRY BOOT CAMP
Swalm 200 and Hand Lab 1144 (Tentative)
June 8 - 10

PROGRAM OF EVENTS (Last Update: 2/13/2020)

All events are scheduled to take place in ***Swalm 200 and Hand Lab 1144*** unless otherwise noted. The morning sessions will be in Swalm, the afternoon sessions will be in Hand Lab**.** For updates and more information, please visit https://fitzkee.chemistry.msstate.edu/bootcamp/.

Monday, June 8

*Location: **Swalm Chemical Engineering Building, Room 200 (Tentative)***

8:00 am	"No-Frills" Breakfast Bagels, doughnuts, coffee, and juice	
9:00 am	Introductory Remarks	Nick Fitzkee
9:05 am	**Session 1:** Protein Structure Primary, secondary, tertiary structure; origins of function	TBD
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)	

*Location: **Hand Lab, Room 1144 (Tentative)***

1:30 pm	**Session 3:** Introduction to UNIX Filesystem, running programs, X-windows, working with files	TBD
2:50 pm	Break	
3:00 pm	**Session 4:** Model Fitting and GnuPlot Model basics, uncertainties and errors, chi-squared	TBD
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)	

Location: **Swalm Chemical Engineering Building, Room 200 (Tentative)**

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

9:00 am	Laboratory Safety	Matt Thomas, 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)	

Location: **Hand Lab, Room 1144 (Tentative)**

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

Wednesday, June 11

Location: **Swalm Chemical Engineering Building, Room 200 (Tentative)**

9:00 am   **Session 10:** Basic Bioinformatics   Nick Fitzkee
Homology, sequence alignment, and BLAST

10:20 am   Break

10:30 am   **Session 11:** Literature Databases and EndNote   TBD
Constructing a library, Getting a perfect bibliography

11:50 am   Survey and Day 3 Wrap-Up   Participants

12:00 pm   Depart