

BIOCHEMISTRY BOOT CAMP

Hand Lab, Room 3336

June 6 - 8

PRELIMINARY PROGRAM OF EVENTS (Last Update: 4/23/2018)

All events are scheduled to take place in **Hand Lab Room 3336** (first floor, *not the ground floor*) unless otherwise noted. Please note this room is different from originally planned. For updates and more information, please visit <http://fitzkee.chemistry.msstate.edu/bootcamp/>.

Wednesday, June 6

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| 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 ExPASy, Entrez | TBD |
| 11:50 am | Group Photo | |
| 12:00 pm | Break for Lunch (on your own) | |
| 1:30 pm | Session 3: Introduction to UNIX Filesystem, running programs, X-windows, working with text files | TBD |
| 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) | |

Thursday, June 7

Session 5: Working in the Lab: Laboratory Safety, Waste, and Techniques

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| 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 | Demo: Using a Micropipette | Nick Fitzkee |
| 11:30 am | Break for Lunch (on your own) | |
| 1:00 pm | Session 6: DNA Structure and Properties Basic properties, PCR, predicting melting temperatures | Nick Fitzkee |
| 2:20 pm | Break | |
| 2:30 pm | Session 7: The PDB and Molecular Visualization Using PyMOL for analysis and figures | Nick Fitzkee |
| 3:30 pm | Session 8: 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) | |

Friday, June 8

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| 9:00 am | Session 9: Basic Bioinformatics Homology, sequence alignment, and BLAST | Nick Fitzkee |
| 10:20 am | Break | |
| 10:30 am | Session 10: Literature Databases and EndNote | TBD |
| 11:50 am | Survey and Day 3 Wrap-Up | Participants |
| 12:00 pm | Depart | |