

# Current Methods in Biochemistry and Cell Biology

Spring 2020

All classes to be held on Mon, Wed and Fri, 3:00 – 4:00 p.m.

Course Director: Dr. John Putkey

| Day | Date  | Room  | Topic   | Instructor    |
|-----|-------|-------|---|---------------|
| Mon | 01/06 | B.627 | PCR and RNA quantification                          | Cunha         |
| Wed | 01/08 | B.627 | RNA Interference                                    | Shyu          |
| Fri | 01/10 | B.621 | DNA/RNA hybridization                               | Shyu          |
| Mon | 01/13 | B.627 |   |               |
| Wed | 01/15 | B.627 | Protein Expression: Bacteria I                      | Putkey        |
| Fri | 01/17 | B.627 | Protein Expression: Bacteria II and insects         | Dessauer      |
| Mon | 01/20 |       | <b>MLK Holiday</b>                                  |               |
| Wed | 01/22 | B.627 | Next-Generation Sequencing                          | Han           |
| Fri | 01/24 | B.627 | CRISPR-Cas 9 system                                 |               |
| Mon | 01/27 | B.627 | Inducible systems & recombinant virus               | Alcorn        |
| Wed | 01/29 | B.627 | Protein Isolation I                                 | Putkey        |
| Fri | 01/31 | B.627 | Protein Isolation II                                | Alcorn        |
| Mon | 02/03 | B.627 | Protein Isolation III                               | Alcorn        |
| Wed | 02/05 | B.627 | Antibodies: Westerns and Assays                     | Alcorn        |
| Fri | 02/07 | B.627 | Antibodies: Arrays and Proteomics                   | Alcorn        |
| Mon | 02/10 |       | <b>Exam I in vitro tools (from DNA-RNA-protein)</b> |               |
| Wed | 02/12 | B.627 | High throughput screens: Metabolomics               | Xia           |
| Fri | 02/14 | B.627 | High throughput screens: Genome wide                | Yoo           |
| Mon | 02/17 |       | <b>Presidents Day Holiday</b>                       |               |
| Wed | 02/19 | B.627 | High throughput screens: Chemical                   | Chen          |
| Fri | 02/21 | B.627 | Flow cytometry                                      |               |
| Mon | 02/24 | B.627 | Spectroscopy and FRET                               | Jayaraman     |
| Wed | 02/26 | B.627 | Microscopy  | Leventhal     |
| Fri | 02/28 | B.627 | Cellular applications of fluorescence               | Leventhal     |
| Mon | 03/02 | B.627 | Model systems: Yeast molecular genetics             | Morano        |
| Wed | 03/04 | B.627 | Model systems: Zebrafish                            | Breton        |
| Fri | 03/06 | B.627 | Model systems: Transgenic                           | Yoo           |
| Mon | 03/09 | B.627 | Model systems: Knockout mice                        | Yoo           |
| Wed | 03/11 | B.627 | Model systems: Stem Cells                           | Yoo           |
| Fri | 03/13 | B.627 | Model systems: Drosophila                           | Venkatachalam |
| Mon | 03/16 |       | <b>Spring Break (No Classes)</b>                    |               |
| Wed | 03/18 |       | <b>Spring Break (No Classes)</b>                    |               |
| Fri | 03/20 |       | <b>Spring Break (No Classes)</b>                    |               |
| Mon | 03/23 | B.627 | <b>Exam 2 cellular/systemic functional analysis</b> |               |
| Wed | 03/25 | B.627 |   |               |
| Fri | 03/27 | B.627 | <b>BMB Retreat</b>                                  |               |
| Mon | 03/30 | B.627 | Approaches to membrane proteins I                   | Jayaraman     |
| Wed | 04/01 | B.627 | Approaches to membrane proteins II                  | Jayaraman     |
| Fri | 04/03 | B.627 | Ligand binding and enzyme assays I                  | Kulmacz       |
| Mon | 04/06 | B.627 | Ligand binding and enzyme assays II                 | Kulmacz       |
| Wed | 04/08 | B.627 | Electron microscopy: Theory                         | Serysheva     |
| Fri | 04/10 | B.627 | Electron microscopy: Applications                   | Serysheva     |
| Mon | 04/13 | B.627 | X-Ray crystallography: Theory                       | Zheng         |
| Wed | 04/15 | B.627 | X-Ray crystallography: Applications                 | Zheng         |
| Fri | 04/17 | B.627 | Molecular dynamics simulations: Theory              | Gorfe         |
| Mon | 04/20 | B.627 | Molecular dynamics simulations: Applications        | Gorfe         |
| Wed | 04/22 | B.627 | NMR: Theory   | Putkey        |
| Fri | 04/24 | B.627 | NMR: Applications                                   | Putkey        |
| Mon | 04/27 |       | <b>No Class</b>                                     |               |
| Wed | 04/29 | B.627 | <b>Exam 3 protein analysis</b>                      |               |
|     |       |       |   |               |