

Spring of 2018
Drug Discovery – Potential of Quantitative Systems Pharmacology (QSP)

MSMPHL 2370
Monday and Wednesday 2:00 – 3:30
BSTWR 995

Mark Schurdak, Director, D. Lansing Taylor, Lee McDermott, Bruce Freeman, Michael Lotze, Edward Chu, David Whitcomb and Ivet Bahar Co-Directors

Title	Instructor	Date
1. Overview of Quantitative Systems Pharmacology and Drug Discovery	Lans Taylor	1/8/18
2. Concepts of Molecular-Based pharmacology	Alessandro Bisello	1/10/18
3. Origins of Small Molecule Drugs	Lee McDermott	1/17/18
4. Computational Biology: Target Structure	Luca Ponzoni	1/22/18
5. Computational Drug Discovery	David Koes	1/24/18
6. Biologics as Therapeutics	Michael Lotze	1/29/18
7. Analysis of Clinical Samples to Identify Disease Pathway Modules	Adrian Lee	1/31/18
8. Big data resources, mining and analysis of Patient Data	Shyam Visweswaran	2/5/18
9. Systems Biology and Network Inference	Jim Faeder	2/7/18
10. Computational Biology: Drug Repurposing and Polypharmacology	Ivet Bahar	2/12/18
11. Disease Relevant Experimental Models	Andreas Vogt	2/14/18
12. Phenotypic Discovery: Cell-Based High Content Screens	Bert Gough	2/19/18
13. Phenotypic Discovery: Experimental Organisms	Andreas Vogt	2/21/18
14. Heterogeneity Analysis	Bert Gough	2/26/18
15. Chemical Proteomics/Target Identification	Nathan Yates	2/28/18
16. Computational Models of Disease and Hypothesis Generation	Tim Lezon	3/12/18
17. Biomarkers for Diagnostics and Drug Discovery`	Andy Stern	3/14/18
18. Precision Medicine	David Whitcomb	3/19/18
19. High Throughput Screening	Mark Schurdak	3/21/18
20. Hit to Lead Optimization	Lee McDermott	3/26/18
21. Early Safety Assessment and Link to Pre-Clinical	Larry Verneti	3/28/18
22. PK and Other Challenges	Jan Beumer	4/2/18
23. IND/NDA and clinical Trials	Ed Chu	4/4/18
Case Studies		
24. Case study in discovery #1 <i>Pharmacogenomics and personalized medicine</i>	Phil Empey	4/9/18
25. Case study in discovery #2 <i>Spatial Computational Pathology</i>	Chakra Chennubhotla	4/11/18
26. Case study in discovery #3	Ed Prochownik	4/16/18

History of the Discovery of Myc Inhibitors

27. Case study in discovery #4 <i>Anti-Inflammatory Drug Discovery, Development and Commercialization</i>	Bruce Freeman	4/18/18
29. Case study in discovery #5 <i>Huntington's Disease</i>	Mark Schurdak	4/23/18
30. Case study in discovery #6 <i>Application of QSP to cancer</i>	Andy Stern	4/25/18

Note: The week of Apr. 23-28 is final exam week.