

Advanced Epigenetics and Gene Regulation

BCH 7412: Spring 2024

Tuesdays and Thursdays from 9:35 am to 11:30 am in Rooms:

Cancer Genetics Research Complex (CGRC) 391

Course Directors: Jörg Bungert, PhD (jbungert@ufl.edu).

Jianrong Lu, PhD (jrlu@ufl.edu).

February 13 Basal Transcription Complex Jörg Bungert

[Discussion Paper:](#)

February 15 Mediator and other Co-regulators Jörg Bungert

[Discussion Paper:](#)

Carminati, M., Rodriguez-Molina, J.B., Manav, C.M., Belini, D., and L.A. Passmore (2023) A direct interaction between CPF and RNA Pol II links RNA 3'end processing to transcription. *Molecular Cell* 83:4461-4478.

Discussion Leader:

February 20 Chromatin: Nucleosome and Chromatin Remodeling Jianrong Lu

[Discussion Paper:](#)

Ferrie, J.J., Karr, J.P., Graham, T.G.W., Dailey, G.M., Zhang, G., Tjian, R., and Darzacq (2024) p300 is an obligate integrator of combinatorial transcription factor inputs. *Molecular Cell* 84:1-10.

Discussion Leader: Matt Gibbons

February 22 **Enhancers and Super-Enhancers** **Jörg Bungert**

[Discussion Paper:](#)

Leuzzi et al. (2024). SMARCAL1 is a dual regulator of innate immune signaling and PD-L1 expression that promotes tumor immune evasion. *Cell* 187, 861–881.

Discussion Leader: Paul Fernandez

February 27 **Chromatin: Histone Modifications and Variants** **Jianrong Lu**

[Discussion Paper:](#)

Lim, F., Solvason, J.J., Ryan, G.E., Le, S.H., Jindal, G.A., Steffen, P., Jandu, S.K., and Farley, E.K. (2024) Affinity-optimizing enhancer variants disrupt development. *Nature* 626:151-159.

Discussion Leader: Xi Cheng

February 29 **DNA Methylation** **Jianrong Lu**

[Discussion Paper:](#)

Gunn et al. (2023). (R)-2-Hydroxyglutarate Inhibits KDM5 Histone Lysine Demethylases to Drive Transformation in IDH-Mutant Cancers. *Cancer Discov.* 13:1478-1497.

Discussion Leader: Korosh Jabbari

March 05 **Nuclear Transcription Domains** **Jörg Bungert**

[Discussion Paper:](#)

Liang et al. (2023). Integrative multi-omic cancer profiling reveals DNA methylation patterns associated with therapeutic vulnerability and cell-of-origin. *Cancer Cell.* 2023 Sep 11;41 (9):1567-1585.e7.

Discussion Leader: Bungert/Lu

