

Chris Wright, *D. Phil.*

Louise B. McGavock Chair

Professor of Cell and Developmental Biology

Director, Program in Developmental Biology

Associate Director, Vanderbilt Center for Stem Cell Biology

Keywords: [VCSCB](#) [SPRING](#) [seminars](#)

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Meeting Details

Start Date / Time	January 16, 2019 at 9:00 AM
End Date / Time	January 16, 2019 at 10:00 AM
Duration	1 hour(s)
Location	9455 MRB IV
Presenter Name	Chris Wright, D. Phil.
Presentation Title	Barcoding of mammalian cells using homing CRISPR
Status	This meeting has already occurred

Meeting Agenda/Notes

Rationale:


Occasional presentations by faculty mentors regarding paradigm-shifting discoveries or enabling techniques in areas related to stem and progenitor biology could be useful to the VCSCB community.

Coverage:

Combinatorial barcoding may provide an essential and refined level of understanding of lineage connections in many biological and disease contexts. I aim to guide discussion over Kalhor et al. ([Church Lab] *Science* 2018; doi 10.1126/science.aat9804), which describes homing-guide RNA/CRISPR-based barcode lineage-labeling of millions of cells in mammalian embryos. Kalhor's 60-insert hgRNA transgenic mouse strain may be bred to constitutive, tissue-specific, or inducible iCAS expressers, for flexible tracing approaches with minimal derivation of new strains. I will include a speculative proposal from Gaj and Perez-Pinera (*Genome Biology* 2018; doi 10.1186/s13059-018-1541-y) for using EvolvR (Halperin et al. [Dueber lab] *Nature* 2018; doi 10.1038/s41586-018-0384-8 — an nCas9 variant fused to error-prone DNA polymerase) to generate greater barcode diversity, potentially from fewer hgRNA insert sites. I hope for active discussion of applications and limitations.

Serendipity: While I selected this paper many months ago for this SPRING presentation, please note that Dr. Reza Kalhor (first author) will visit us as a CDB faculty candidate on Jan 24/25, 2019.

Attachment

 [Spring_2019_Email_Notice_Wright.pdf](#) - Added on January 14, 2019 at 11:24 AM by Pam Uttz
