Twitter Thread by roser



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Check out our last preprint- We use single-cell & spatial technologies to map the human uterus and inform organoids experiments

Mapping the temporal and spatial dynamics of the human endometrium in vivo and in vitro

We generate single-cell and spatial reference maps of the human uterus and dissect the signalling pathways that determine cell fate of the epithelial lineages in the lumenal and glandular microenvironments.

To study cell-signalling we use Cell2location (@vitaliikl) and develop CellPhoneDBv3 that considers cellular coordinates for the inference of cell-cell communication

We mapped 3D endometrial organoid cultures and benchmark the model to our uterine atlas. To do so, we develop a novel computational pipeline to align in vitro and in vivo datasets.

Our comparison highlights common pathways regulating the differentiation of secretory and ciliated lineage in vivo and in vitro.

Informed by the in vivo dataset, we show in vitro that downregulation of WNT or NOTCH pathways increases the differentiation efficiency along the secretory and ciliated lineages, respectively

We are excited about how our mechanistic insights of the healthy endometrium may help us understand neglected uterine pathologies, such as endometriosis or endometrial cancer

Amazing collaborative work with Turco lab @CamPathology @teichlab @bayraktar_lab led by amazing scientists @LuzGarAl @krobertssci @NikolKons & Louis-F Hanfield

A big thank you @MoffettAm485 for all fruitful discussions & help. Such an amazing journey!

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