

# Automated registration of single 2D histological brain slices with 3D digital atlas in rodents

Sébastien PILUSO

## • Highlights

- No registration solution for single slices
- Manually performed by experts
- Tedious and non-reproducible

## • Findings

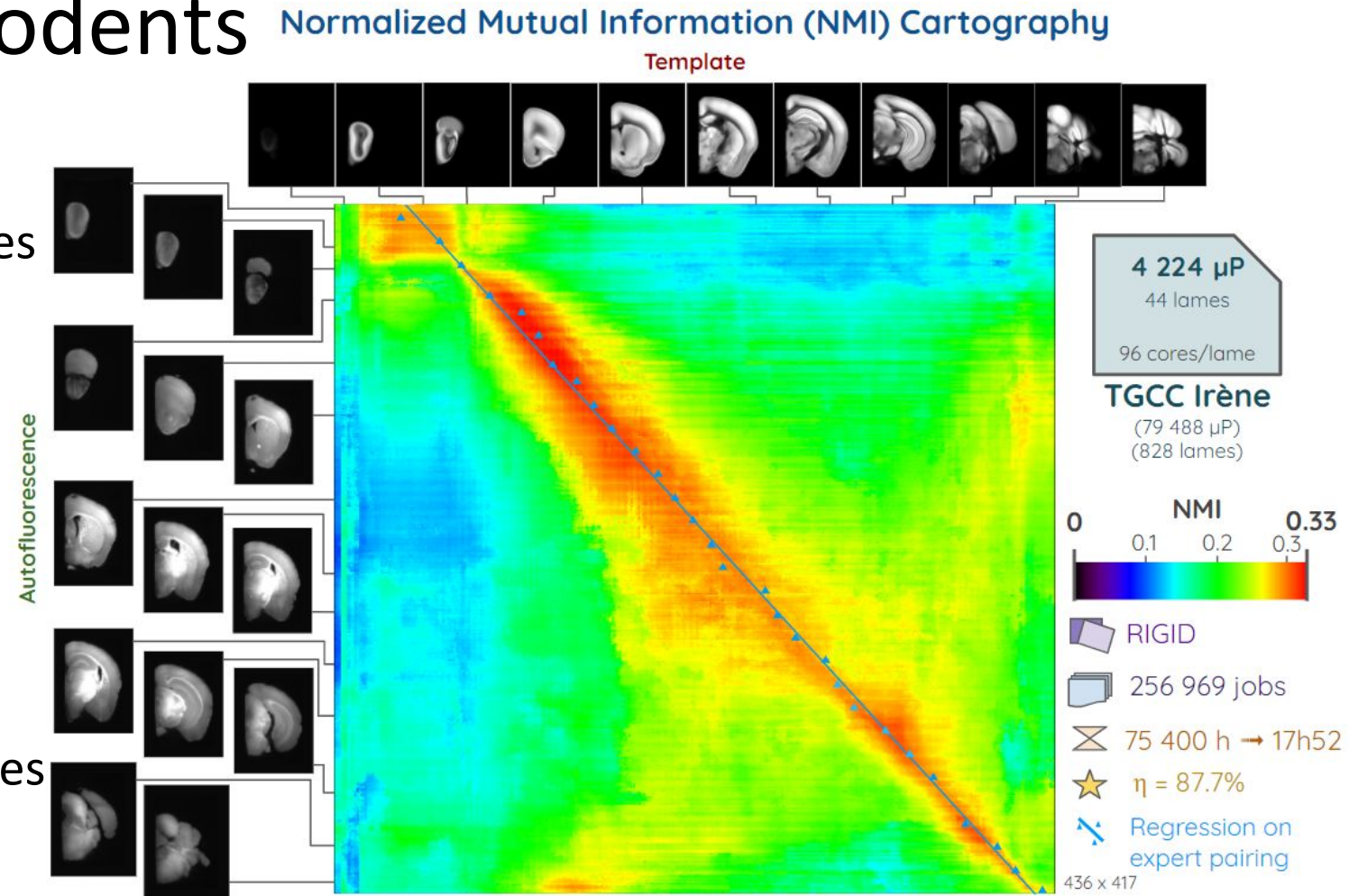
- Method based on linear registration
- Using a similarity metric (NMI)

## • Interesting observations

- Good localization of corresp. atlas slices
- Comparable Dice to experts

## • Learning experience

- Robust linearity in similarity after rigid registration at whole-brain scale
- Needs to be refined (affine registration)



	$mean(\Delta_{sn})$	$R^2$	$mean(Dice)$
<b>max(RIGID)</b>	$10.8 \pm 35.4$	0.88	$0.91 \pm 0.04$
<b>Expert</b>	-	0.99	$0.91 \pm 0.04$