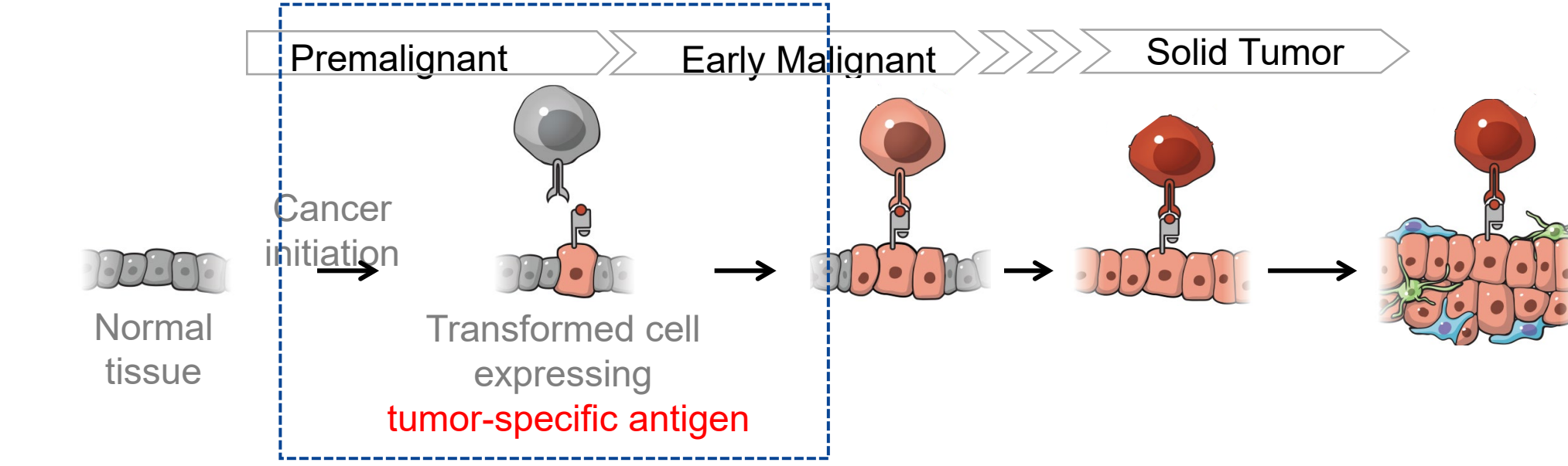
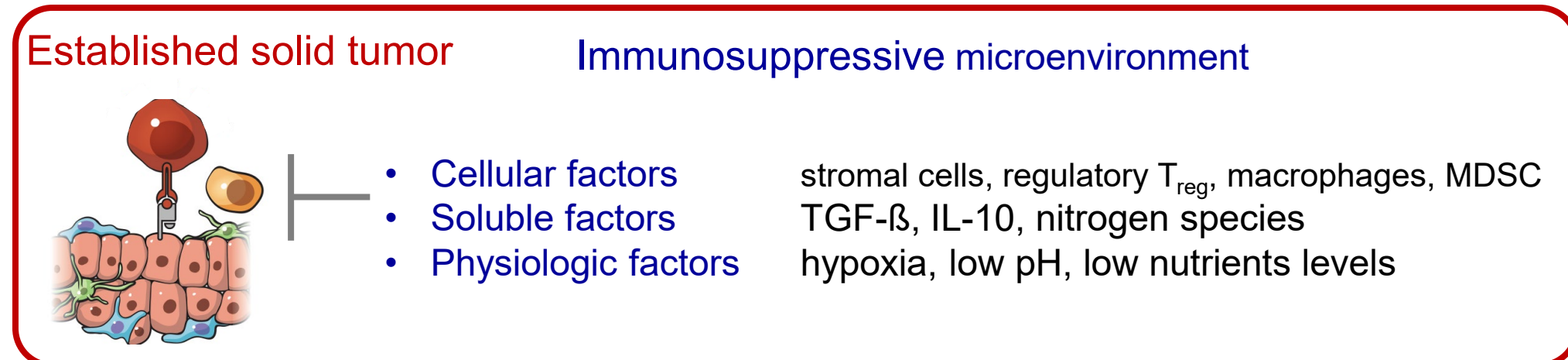
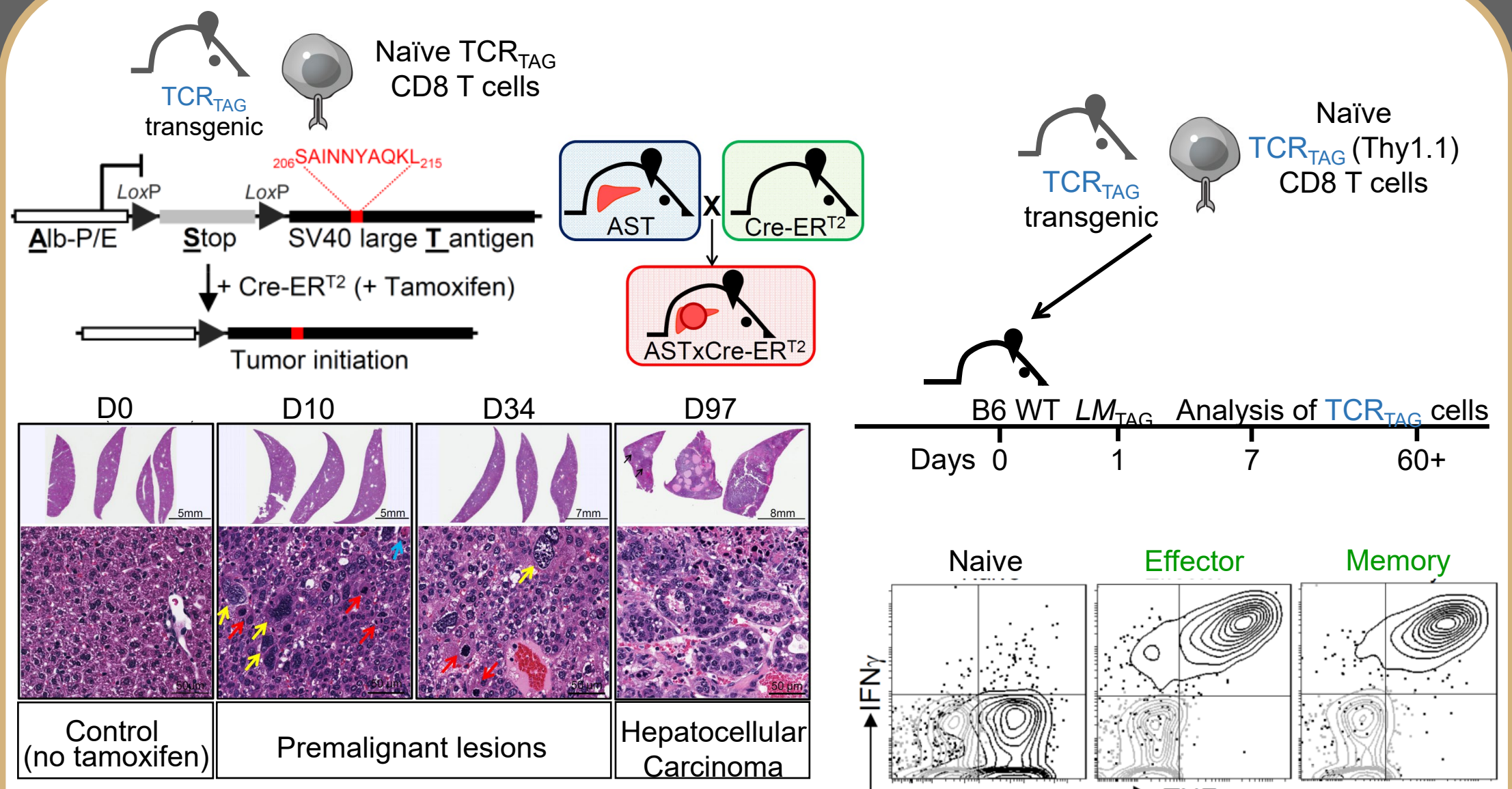


T cell dysfunction in solid tumors



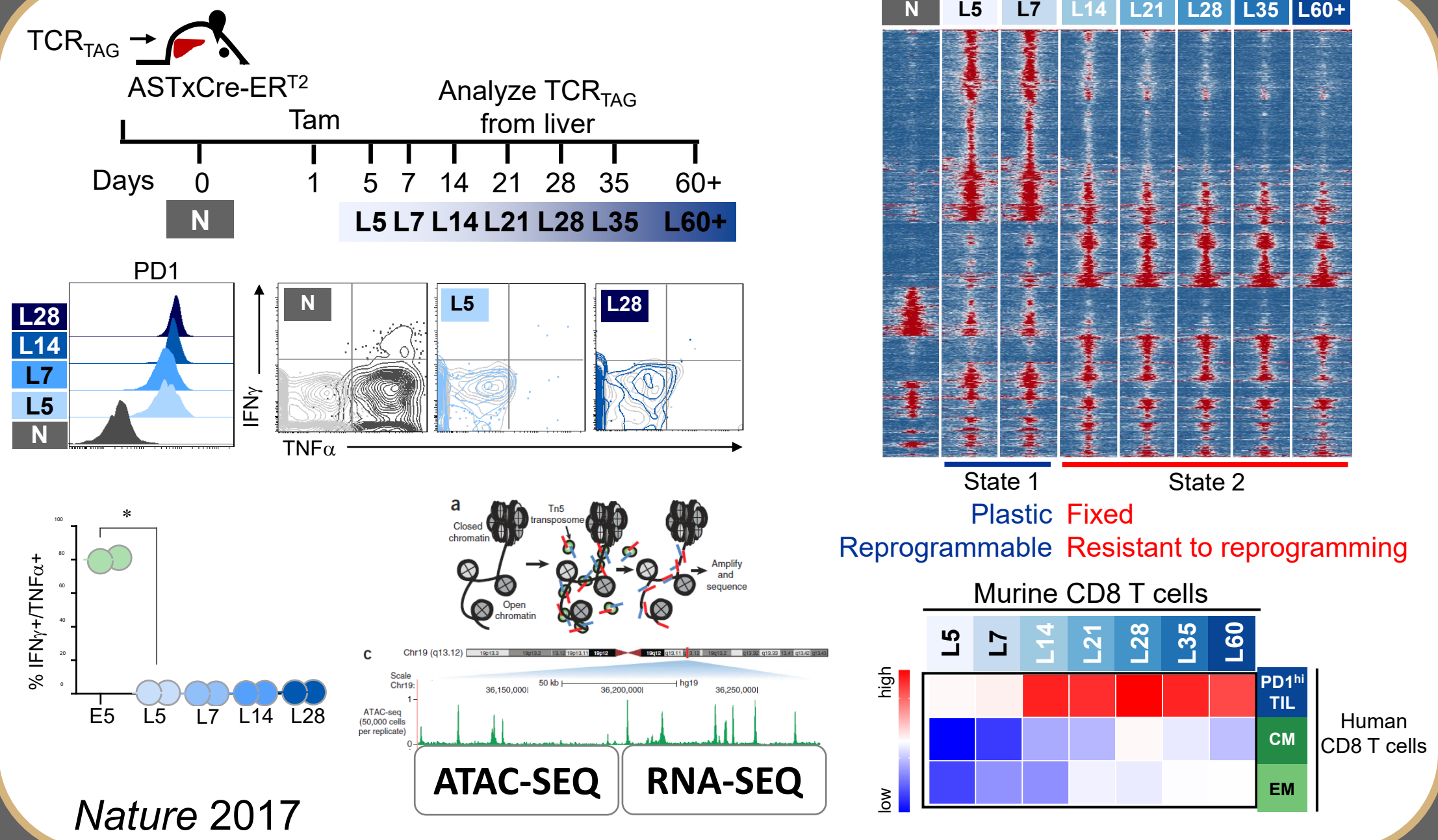
What is the fate of T cells encountering neoantigens early or late during tumorigenesis?

Liver cancer model to study T cell responses during tumorigenesis



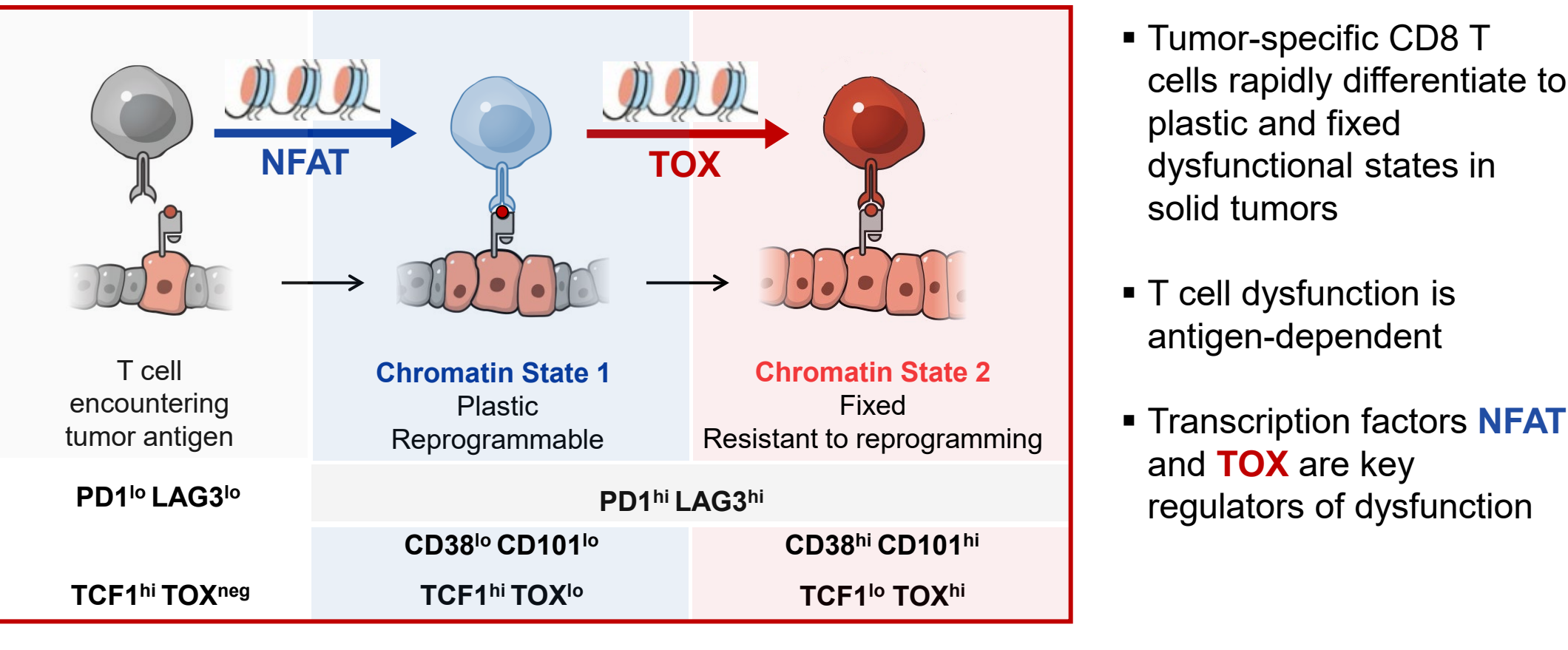
Immunity 2016

Discrete chromatin states regulate T cell dysfunction/function



Nature 2017

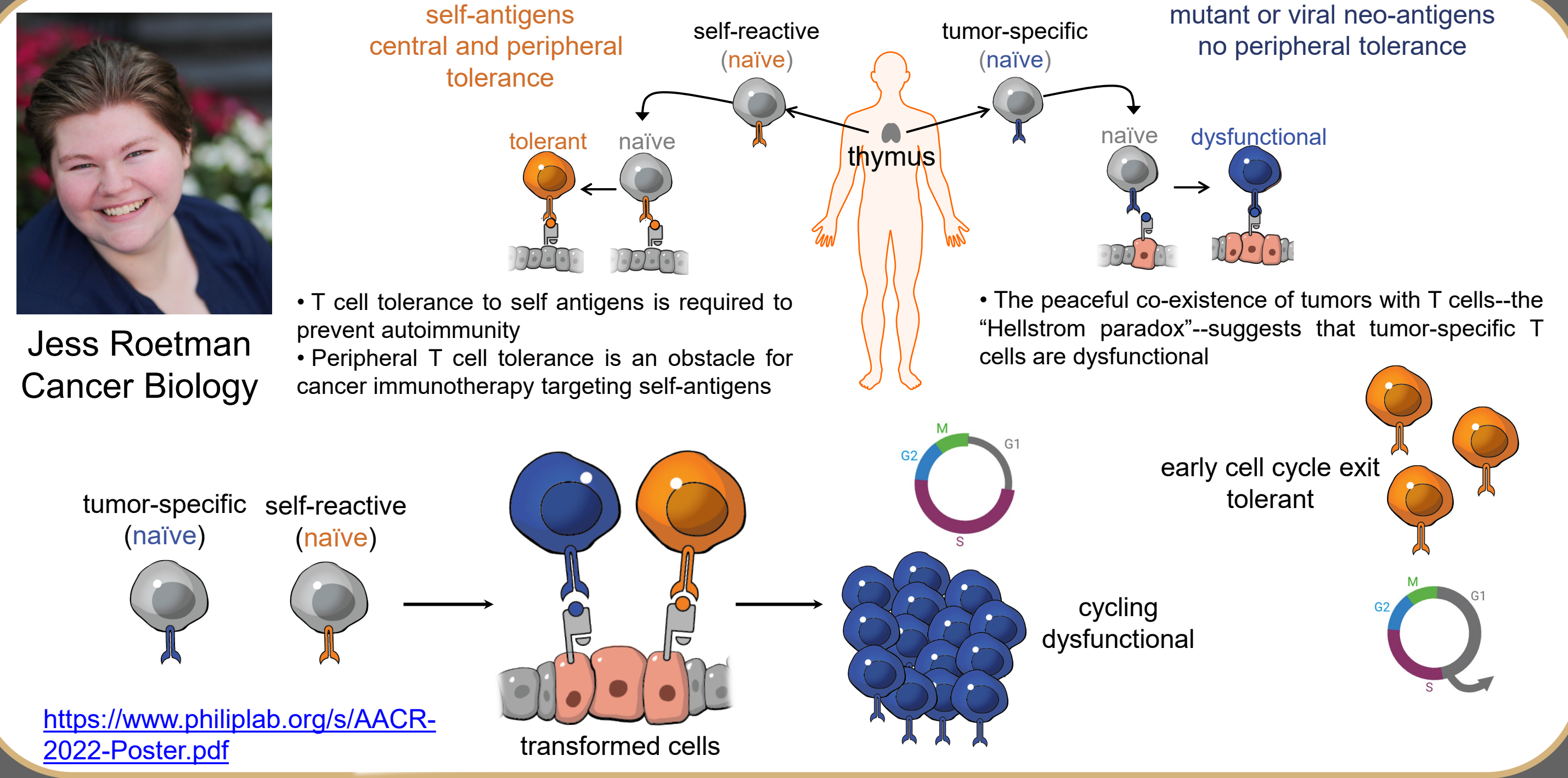
What have we learned so far?



Immunity 2016
Nature 2017
Nature 2019

How early does T cell dysfunction manifest in tumors, and what are the epigenetic and transcriptional programs regulating T cell function and dysfunction?

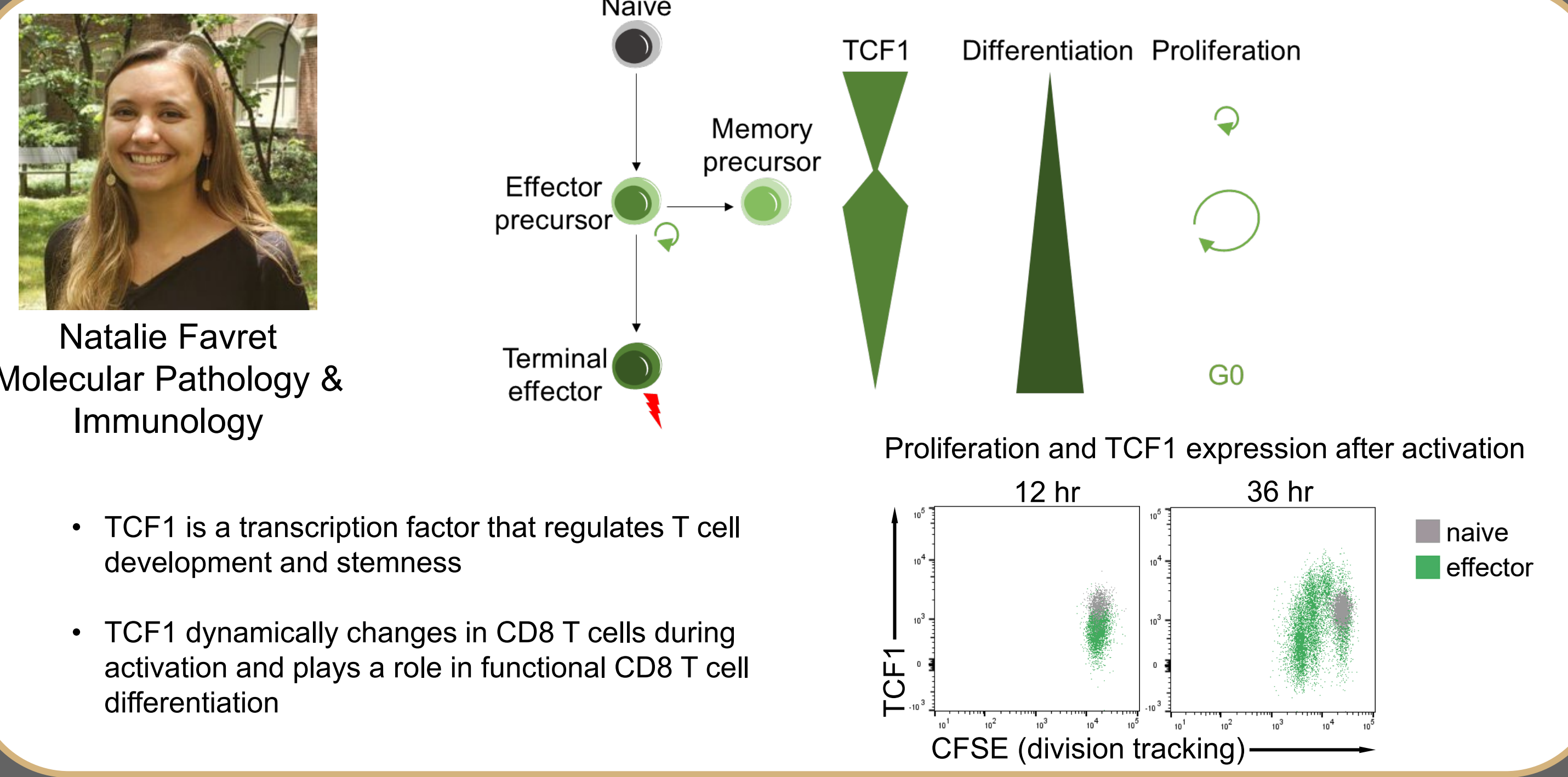
Tolerance/dysfunction mechanisms in cancer



Jess Roetman
Cancer Biology

<https://www.philiplab.org/s/AACR-2022-Poster.pdf>

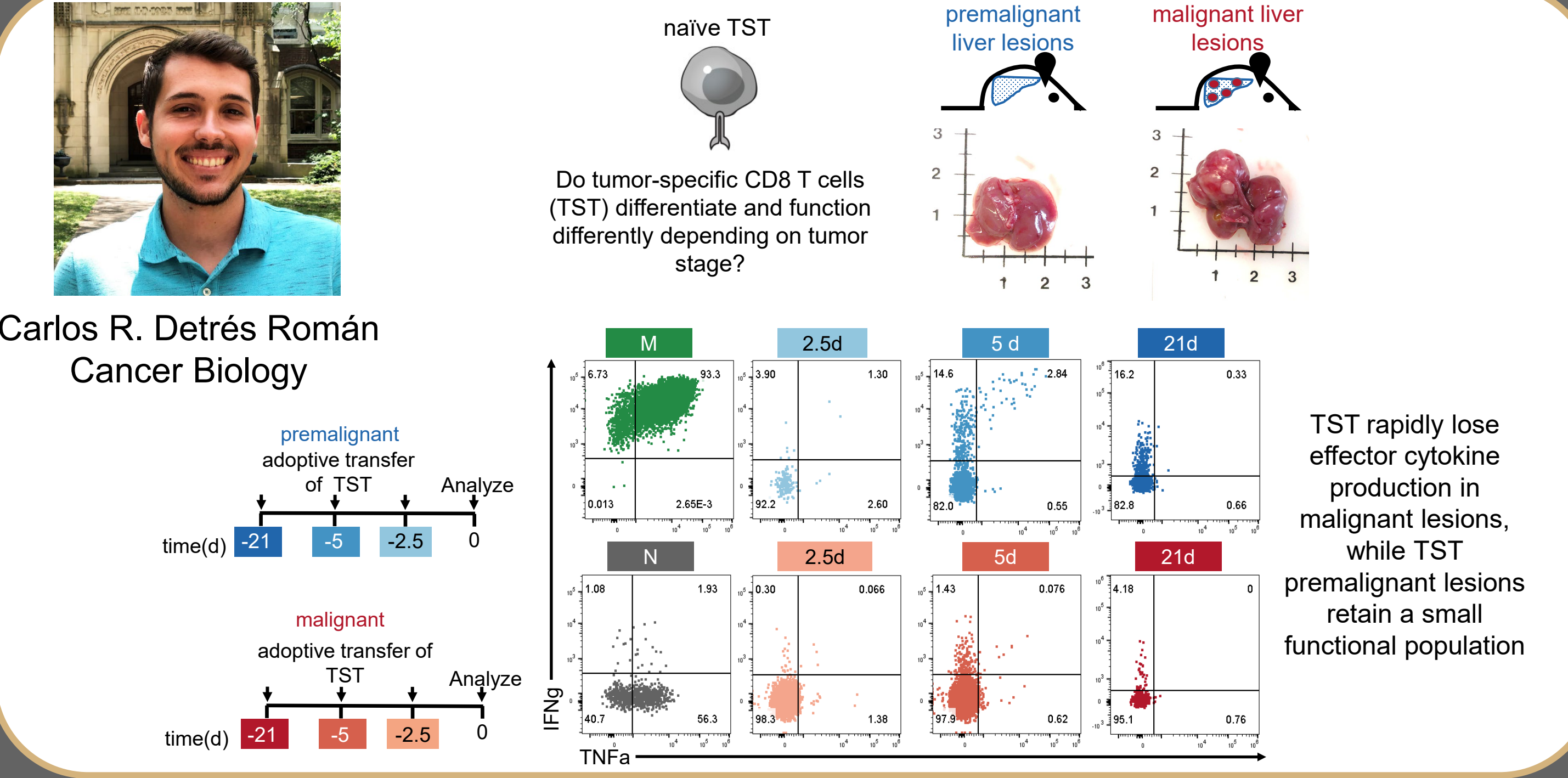
How to make a functional cytotoxic CD8 T cell



Natalie Favret
Molecular Pathology & Immunology

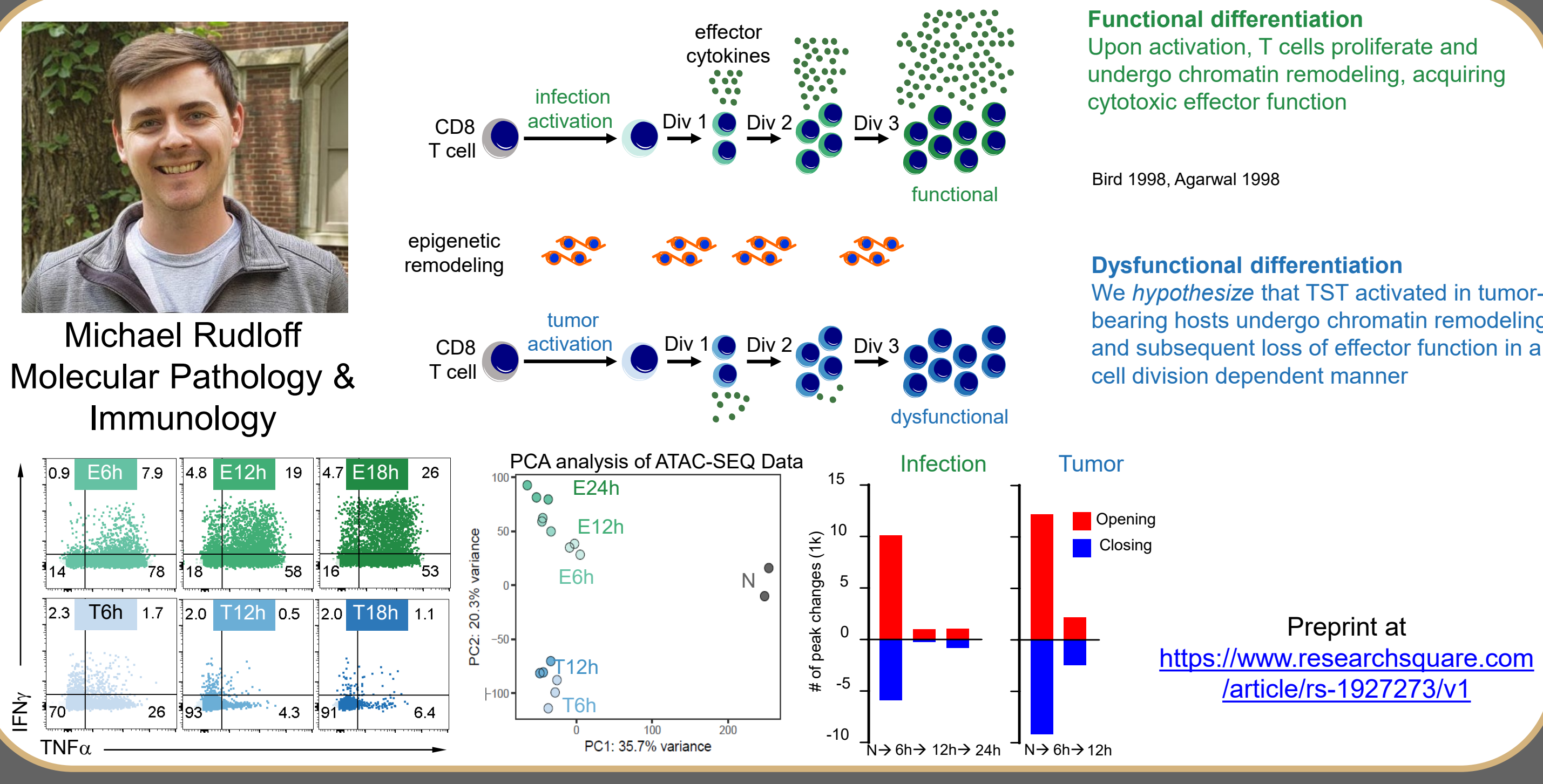
- TCF1 is a transcription factor that regulates T cell development and stemness
- TCF1 dynamically changes in CD8 T cells during activation and plays a role in functional CD8 T cell differentiation

T cell responses in early and late tumors



Carlos R. Detrés Román
Cancer Biology

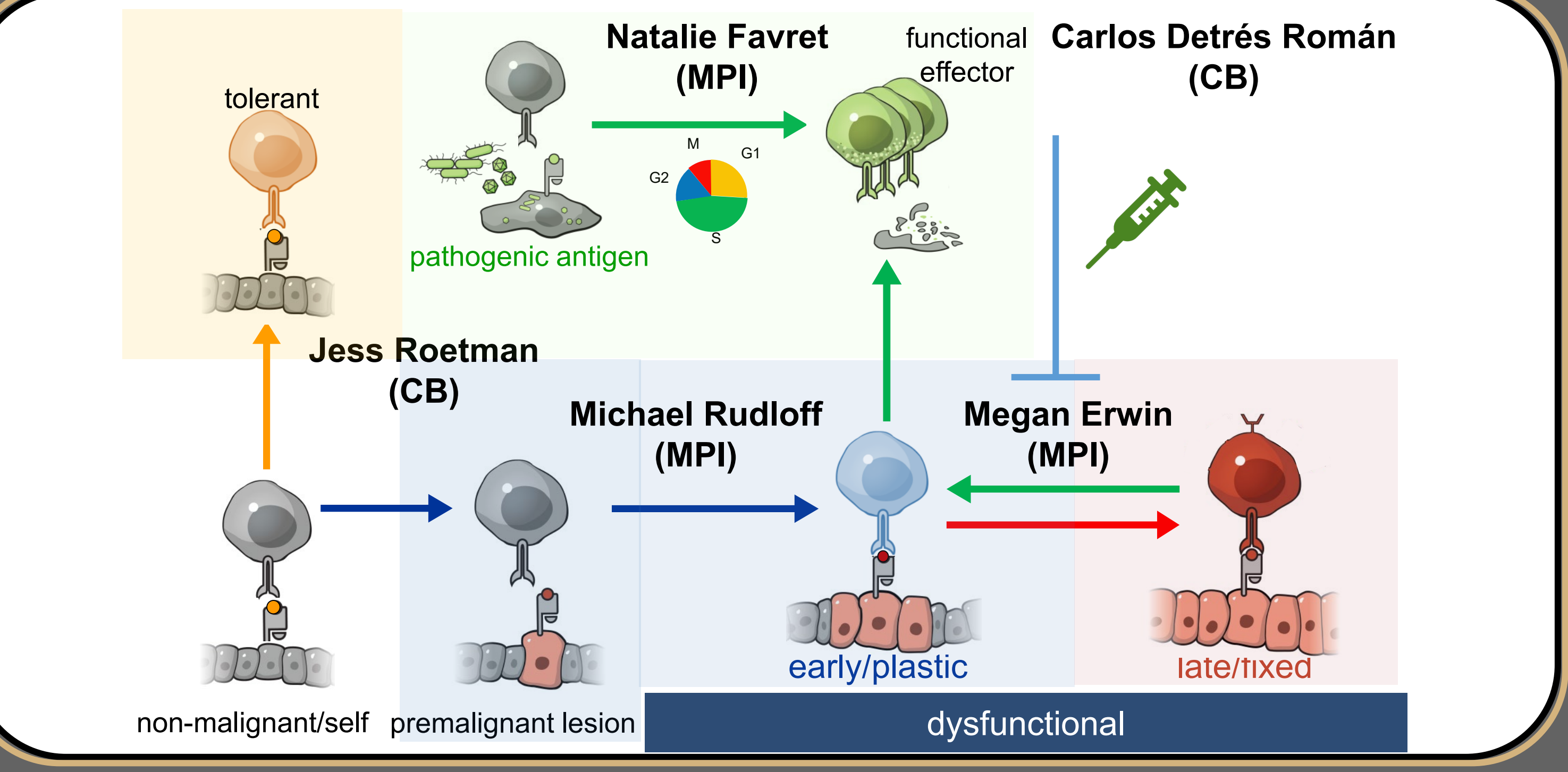
Early epigenetic encoding of T cell dysfunction



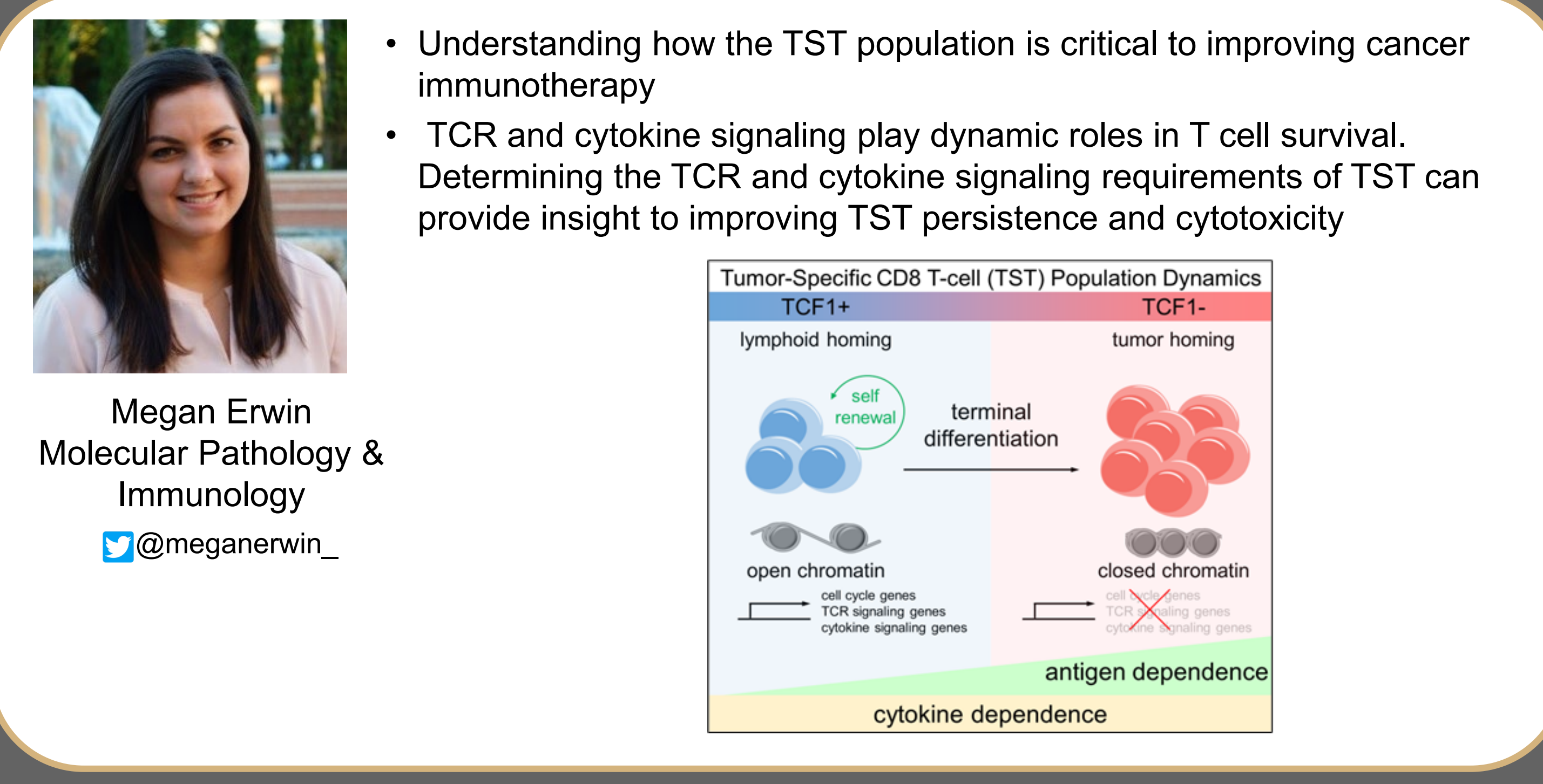
Michael Rudloff
Molecular Pathology & Immunology

Preprint at <https://www.researchsquare.com/article/rs-1927273/v1>

Current projects overview



How are tumor-specific T cells maintained?



Megan Erwin
Molecular Pathology & Immunology
[@meganerwin](https://twitter.com/meganerwin)

Potential future projects

- Target specific transcription factors (TF) regulating T cell function/dysfunction to rescue TST
- Test how post-transcriptional regulation (mRNA isoform changes and translational regulation) control T cell function in tumors
- Profile the cycling capacity of TST in human tumor samples and peripheral blood and determine how this is regulated by chromatin accessibility
- Determine how spatial T cell localization to specific organs and niches within organs and tumors regulates their persistence and function
- Determine whether dysfunctional/exhausted T cells are the precursors for T cell lymphomas
- Target hallmark dysfunction-regulating TF such as TOX and TCF1 in T cell lymphomas

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Our Team

PI Mary Philip
Carlos Detrés Román
Megan Erwin
Natalie Favret
Sriya Jonnakuti
Kristen Murray
Will Murray
Eben Negasi
Jess Roetman
Michael Rudloff

Interested in joining our team?

mary.philip@vanderbilt.edu
www.philiplab.org [@philiplabvandy](https://twitter.com/philiplabvandy)



Philip Lab Hawaiian Shirt Friday!