



SFB 1315

Mechanisms and Disturbances in Memory Consolidation:
From synapses to systems

Tuesday

FEB 16, 2021
4:00 pm CET

ZOOM ID: 7754910236

Contact:

SFB1315.ifb@hu-berlin.de

SFB 1315 LECTURE SERIES 2019-2022

DIFFERENTIAL RESILIENCE TO PERTURBATIONS OF CIRCUITS WITH SIMILAR PERFORMANCE

EVE MARDER

Victor and Gwendolyn Beinfeld Professor of Biology
Member, U.S. National Academy of Sciences
Marder Lab, Modulation of Neural Networks
Brandeis University
Waltham MA, USA



Funded by



Deutsche
Forschungsgemeinschaft

German Research Foundation



SFB 1315

Mechanisms and Disturbances in Memory Consolidation:
From synapses to systems

Tuesday

FEB 16, 2021
4:00 pm CET

ZOOM ID: 7754910236

Register at:

SFB1315.ifb@hu-berlin.de

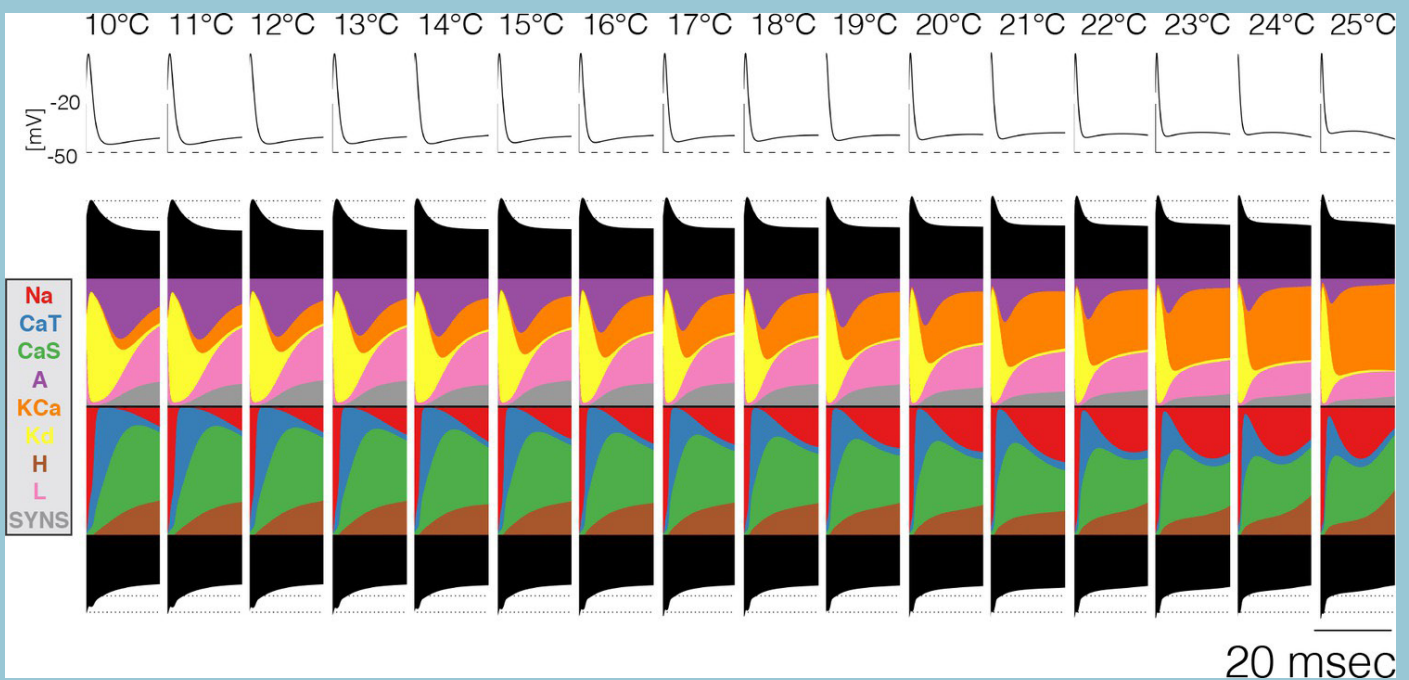
DIFFERENTIAL RESILIENCE TO PERTURBATIONS OF CIRCUITS WITH SIMILAR PERFORMANCE

Both computational and experimental results in single neurons and small networks demonstrate that very similar network function can result from quite disparate sets of neuronal and network parameters.

Using the crustacean stomatogastric nervous system, we study the influence of these differences in underlying structure on differential resilience of individuals to a variety of environmental perturbations, including changes in temperature, pH, potassium concentration and neuromodulation.

We show that neurons with many different kinds of ion channels can smoothly move through different mechanisms in generating their activity patterns, thus extending their dynamic range.

Image Courtesy Eve Marder: Alonso & Marder *eLife* 2020;9:e55470. Figure 5. Current contributions at the end of bursts across temperature



Funded by

DFG Deutsche
Forschungsgemeinschaft

German Research Foundation