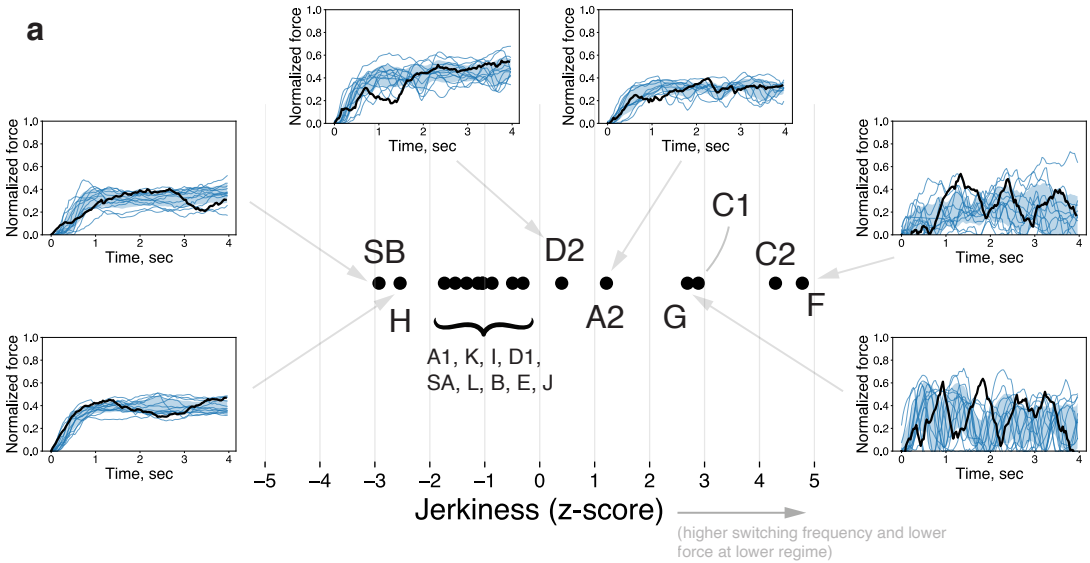
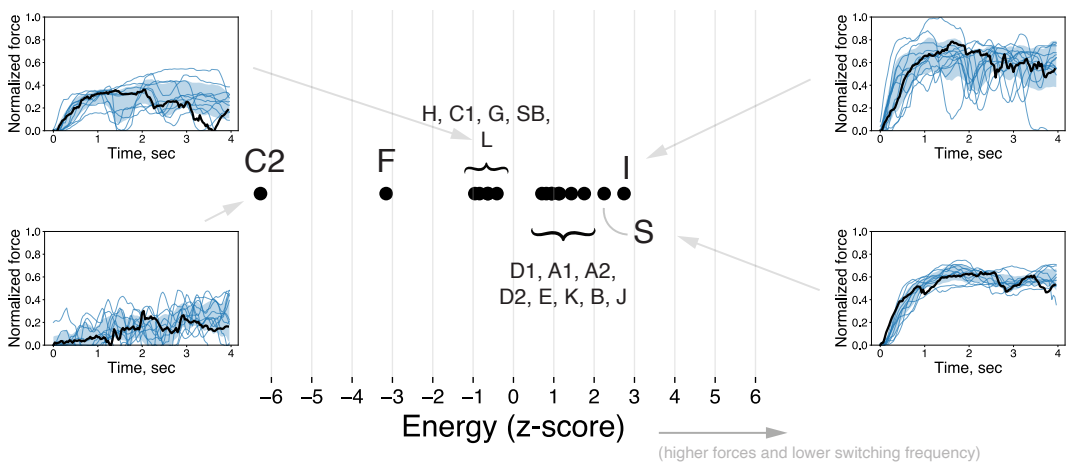
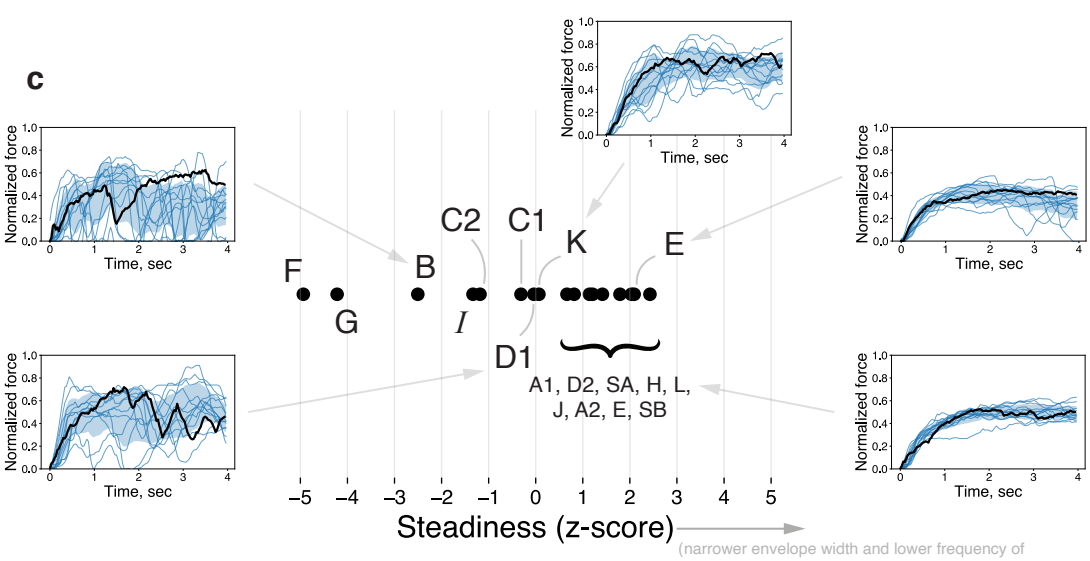

a
Normalized force
Time, sec
SB
H
A1, K, I, D1,
SA, L, B, E, J
D2
A2
C1
G
C2
F
–5 –4 –3 –2 –1 0 1 2 3 4 5
Jerkiness (z-score)
(higher switching frequency and lower force at lower regime)


b
Normalized force
Time, sec
C2
F
H, C1, G, SB,
L
I
S
D1, A1, A2,
D2, E, K, B, J
–6 –5 –4 –3 –2 –1 0 1 2 3 4 5 6
Energy (z-score)
(higher forces and lower switching frequency)


c
Normalized force
Time, sec
F
G
B
C2
I
C1
D1
K
E
A1, D2, SA, H, L,
J, A2, E, SB
–5 –4 –3 –2 –1 0 1 2 3 4 5
Steadiness (z-score)
(narrower envelope width and lower frequency of switching from upper cutting regime)