Supplementary color versions of figures 2, 3, 4, 5, and 7 from “Multiplicative Gain Modulation Arises Through Unsupervised Learning in a Predictive Coding Model of Cortical Function” by Kris De Meyer and Michael W. Spratling, to appear in an upcoming issue of *Neural Computation*.

URL: http://www.mitpressjournals.org/doi/abs/10.1162/NECO_a_00130

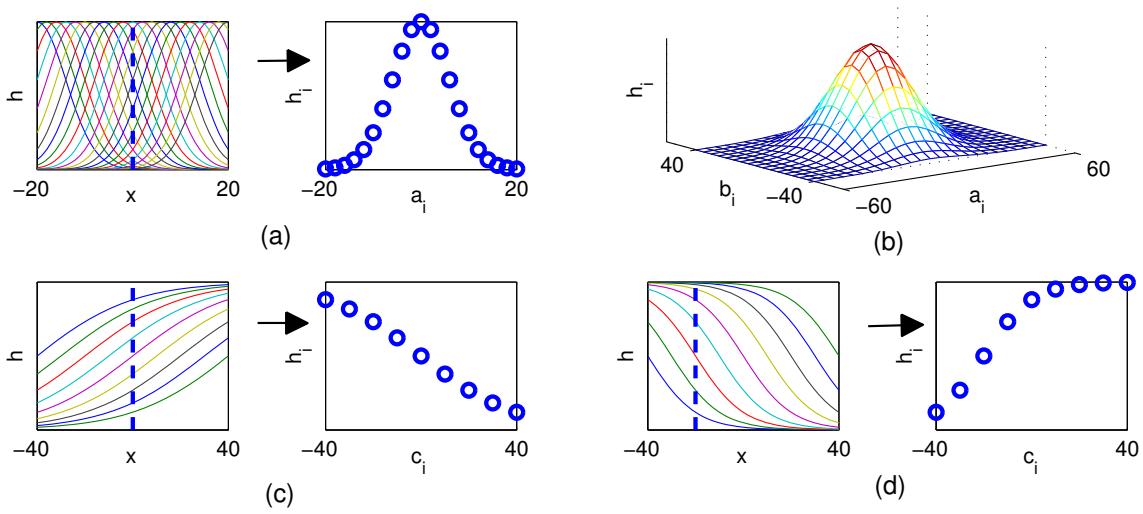

h
−20
x
20
h_i
−20
a_i
20
(a)
h_i
40
b_i
−40
−60
a_i
60
(b)
h
−40
x
40
h_i
−40
c_i
40
(c)
h
−40
x
40
h_i
−40
c_i
40
(d)

Fig. 2

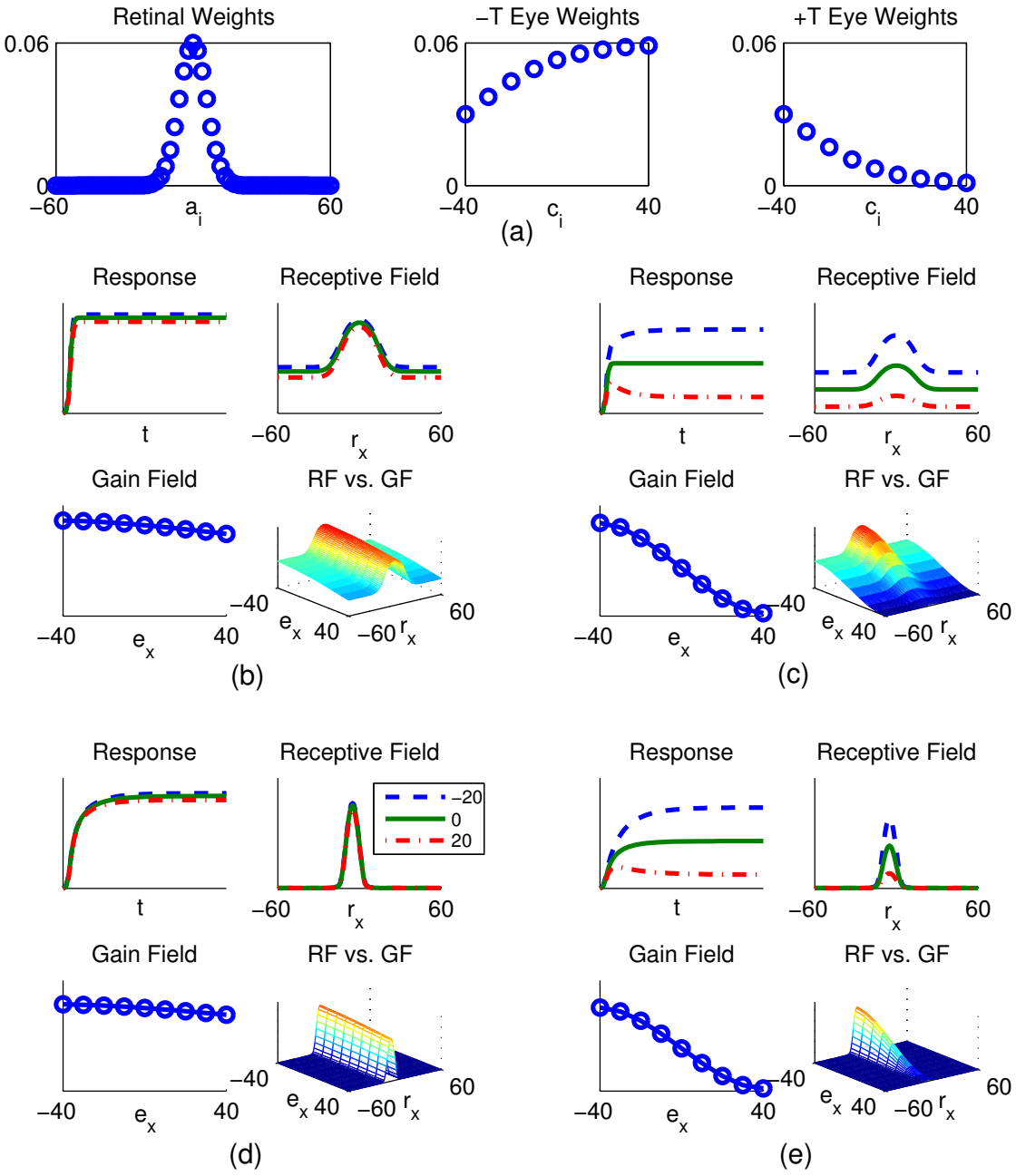

Retinal Weights
0.06
0
−60
a_i
60
−T Eye Weights
0.06
0
−40
c_i
40
+T Eye Weights
0.06
0
−40
c_i
40
(a)
Response
t
Receptive Field
−60
r_x
60
Gain Field
−40
e_x
40
RF vs. GF
−40
e_x 40
−60 r_x
60
(b)
Response
t
Receptive Field
−60
r_x
60
Gain Field
−40
e_x
40
RF vs. GF
−40
e_x 40
−60 r_x
60
(c)
Response
t
Receptive Field
−20
0
20
−60
r_x
60
Gain Field
−40
e_x
40
RF vs. GF
−40
e_x 40
−60 r_x
60
(d)
Response
t
Receptive Field
−60
r_x
60
Gain Field
−40
e_x
40
RF vs. GF
−40
e_x 40
−60 r_x
60
(e)

Fig. 3

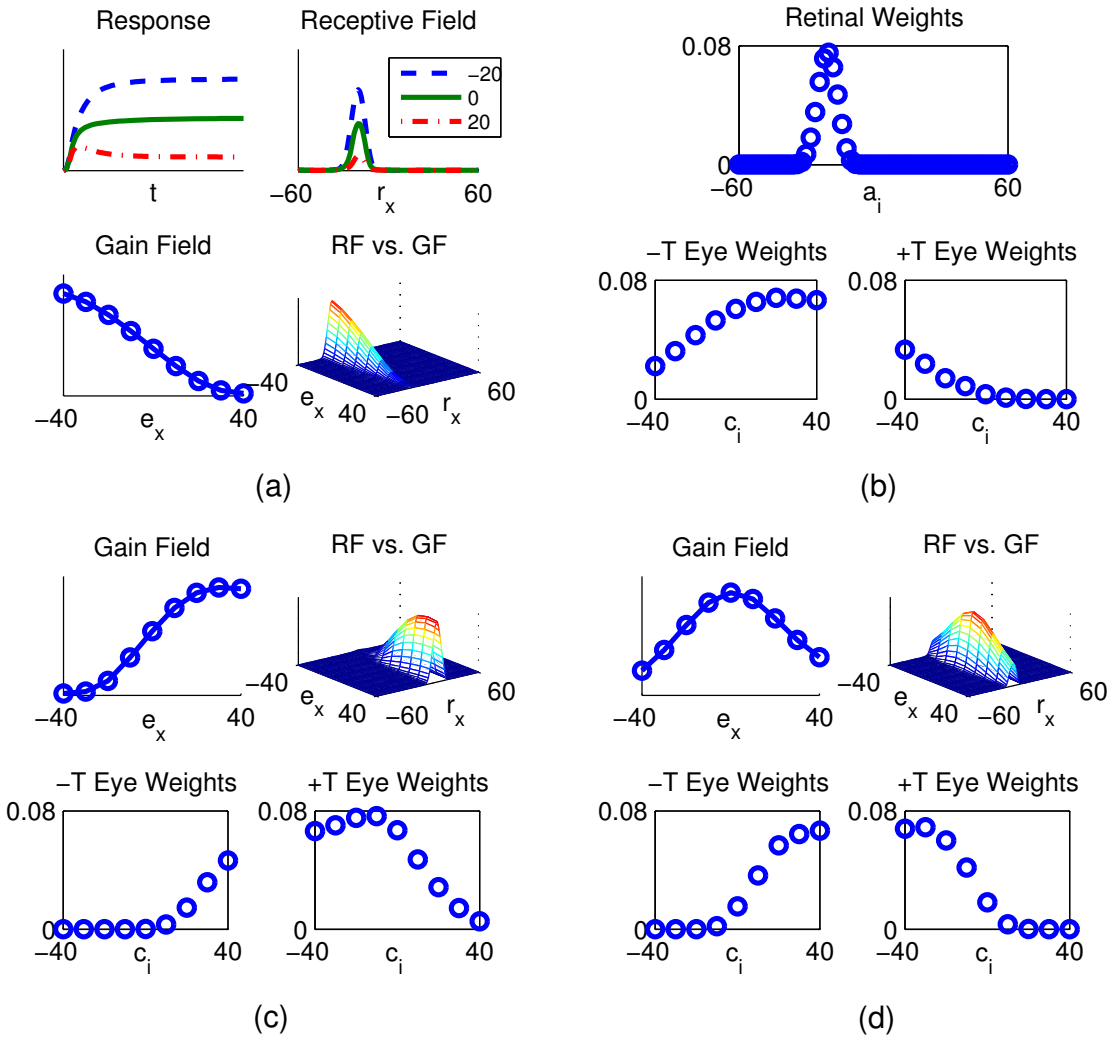

Response
Receptive Field
t
−60
r_x
60
−20
0
20
Gain Field
RF vs. GF
−40
e_x
40
−60
r_x
(a)
Retinal Weights
0.08
0
−60
a_i
60
−T Eye Weights
+T Eye Weights
c_i
(b)
Gain Field
RF vs. GF
−T Eye Weights
+T Eye Weights
(c)
Gain Field
RF vs. GF
−T Eye Weights
+T Eye Weights
(d)

Fig. 4

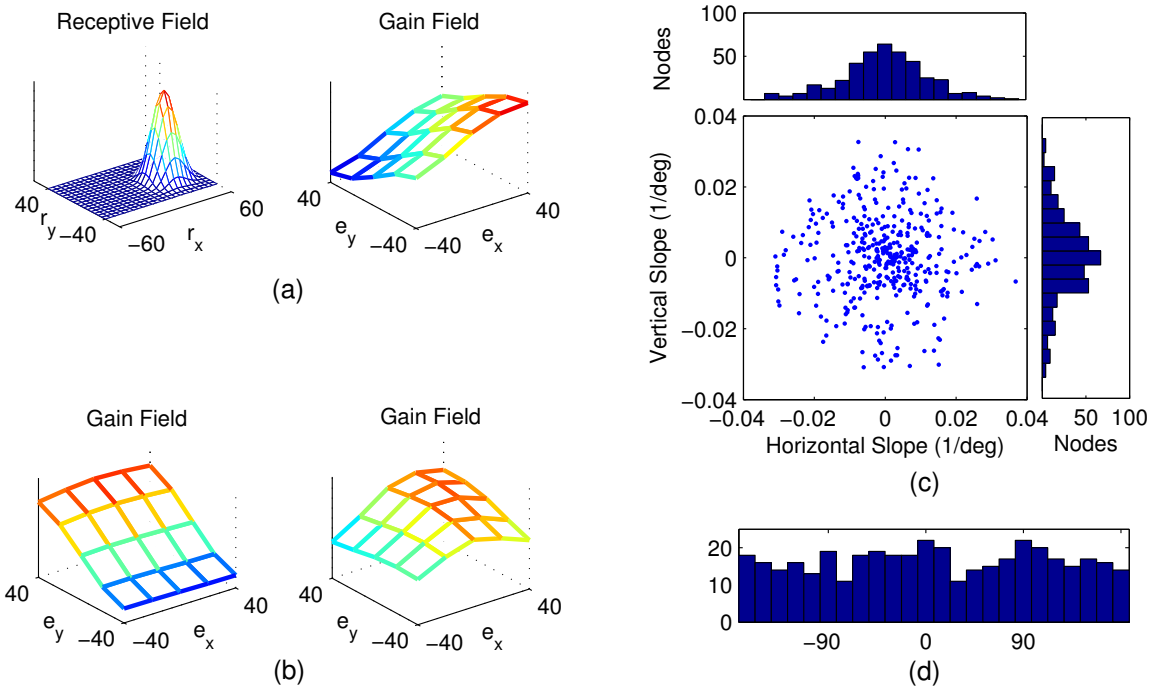
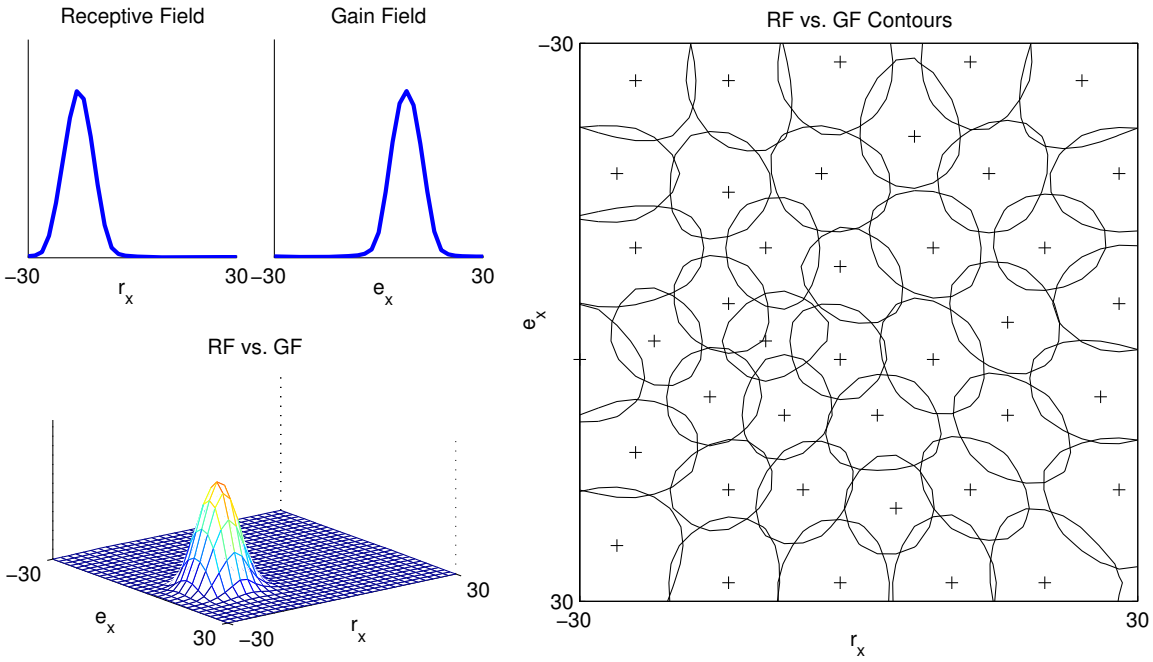

Receptive Field
Gain Field
40
r_y
−40
−60
r_x
60
40
e_y
−40
−40
e_x
40
(a)
Gain Field
Gain Field
40
e_y
−40
−40
e_x
40
40
e_y
−40
−40
e_x
40
(b)
Nodes
100
50
0.04
0.02
0
−0.02
−0.04
Vertical Slope (1/deg)
−0.04
−0.02
0
0.02
0.04
Horizontal Slope (1/deg)
50
100
Nodes
(c)
20
10
0
−90
0
90
(d)

Fig. 5


Receptive Field
Gain Field
−30
30
r_x
−30
30
e_x
RF vs. GF
−30
e_x
30
30
−30
r_x
RF vs. GF Contours
−30
e_x
30
−30
30
r_x

(a) (b)

Fig. 7