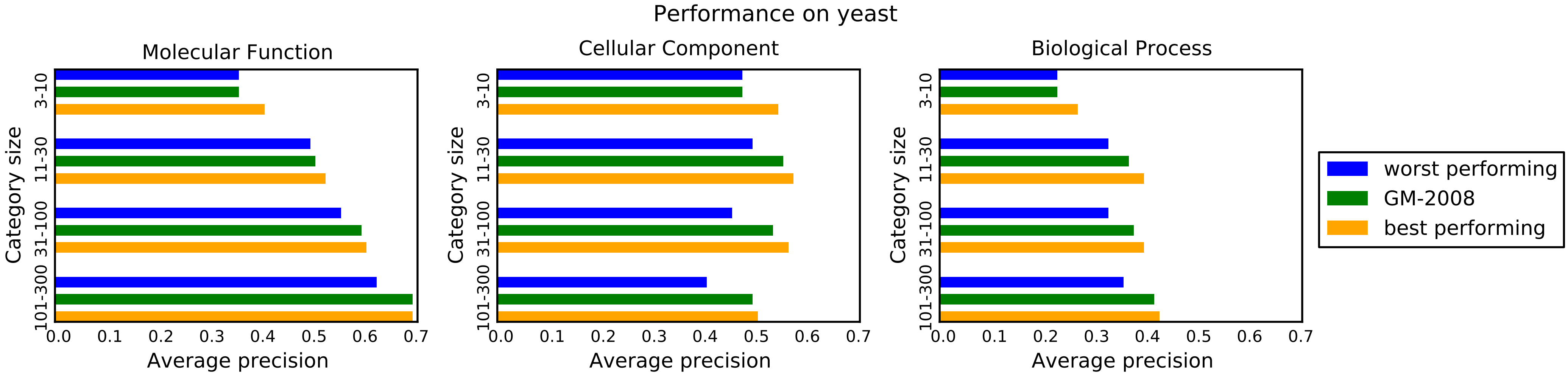
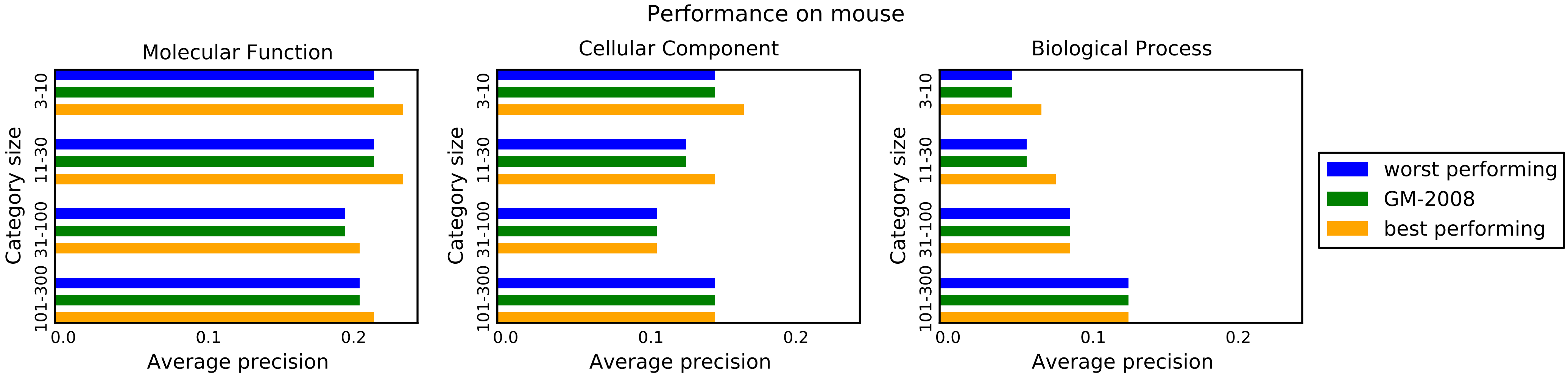
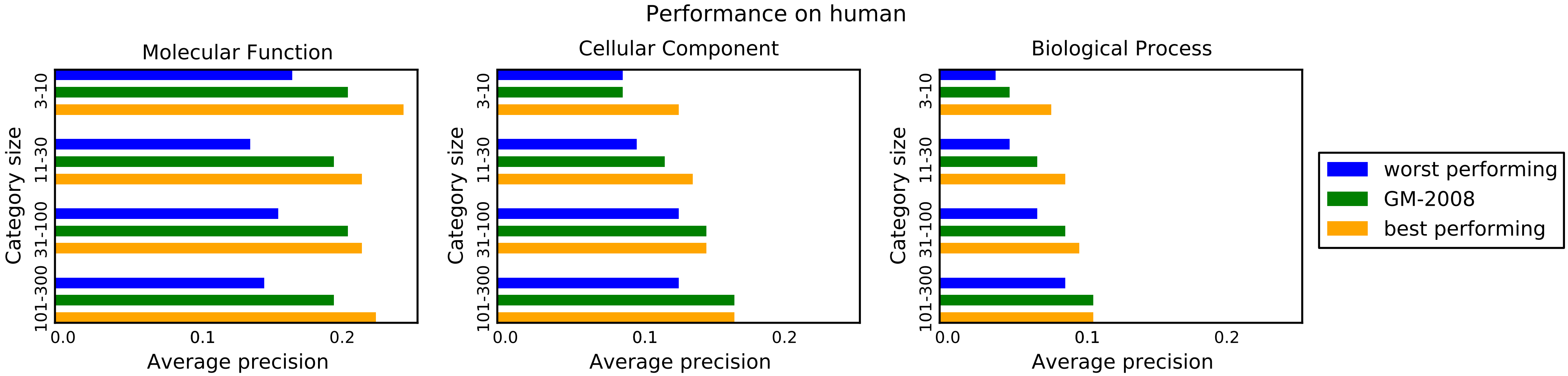
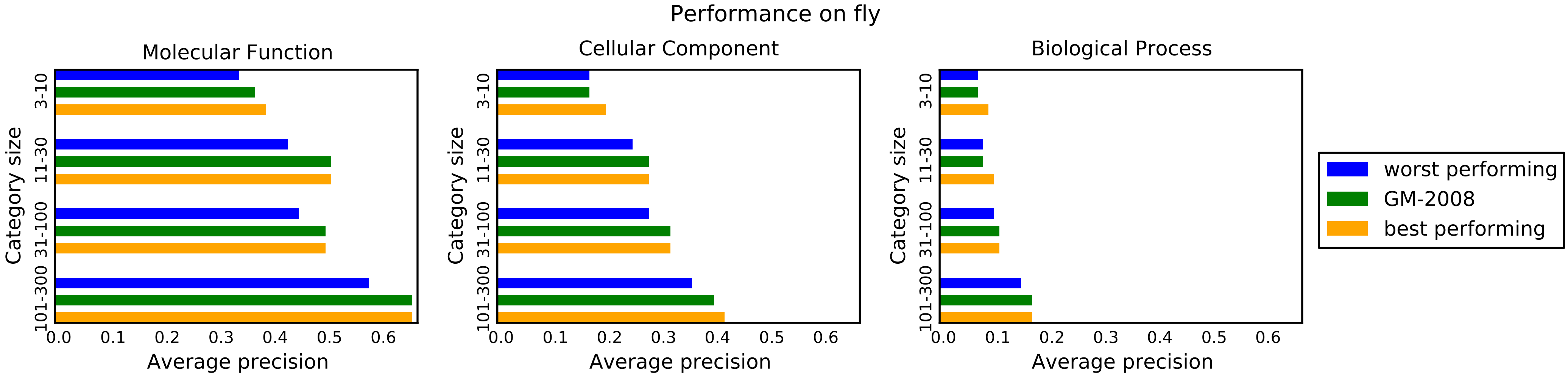
## Supplementary Figures

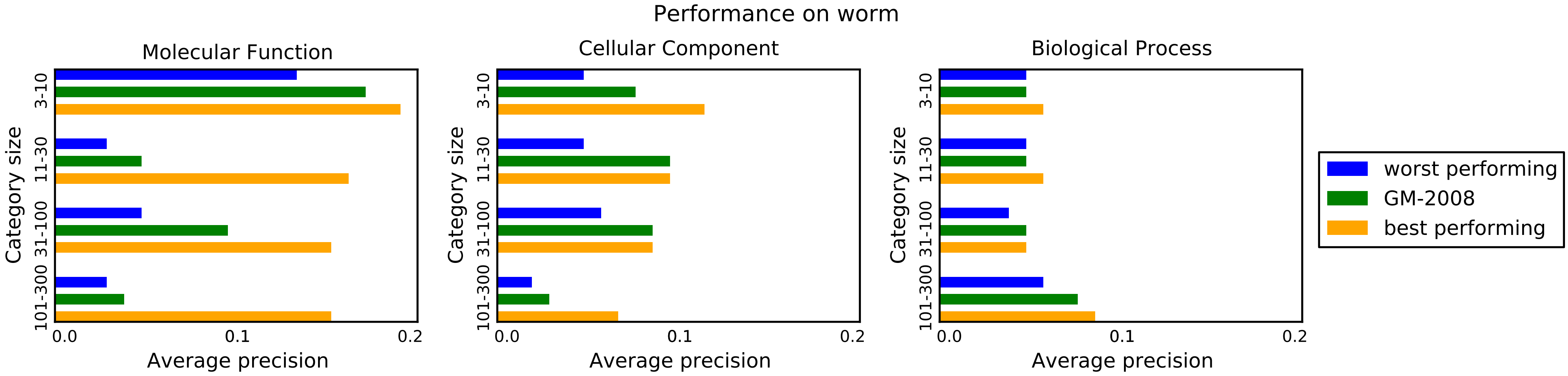
Shown are best performing (maximum) and worst performing (minimum) average precision (or area under the precision recall curves (AUC-PR)) for the three Gene Ontology (GO)-based network weighting methods implemented in GeneMANIA along with the corresponding value for the original GeneMANIA algorithm (GM-2008) described by Mostafavi and colleagues (1) and externally validated on mouse (3) and yeast (1) gene function prediction benchmarks. Each value is the average precision achieved over all GO terms in the indicated branch (Biological Process, Molecular Function, Cellular Component), for the indicated organism. GO categories were separated into bins by size, with GO categories containing 3-10 terms, 11-30, 31-200 and 101-300. In total, 1,954 GO terms were used to create the yeast graphs, 2,878 GO terms for mouse, 2,890 GO terms for human, 2,356 GO terms for fly, 572 GO terms for worm, and 1,861 GO terms for arabidopsis.

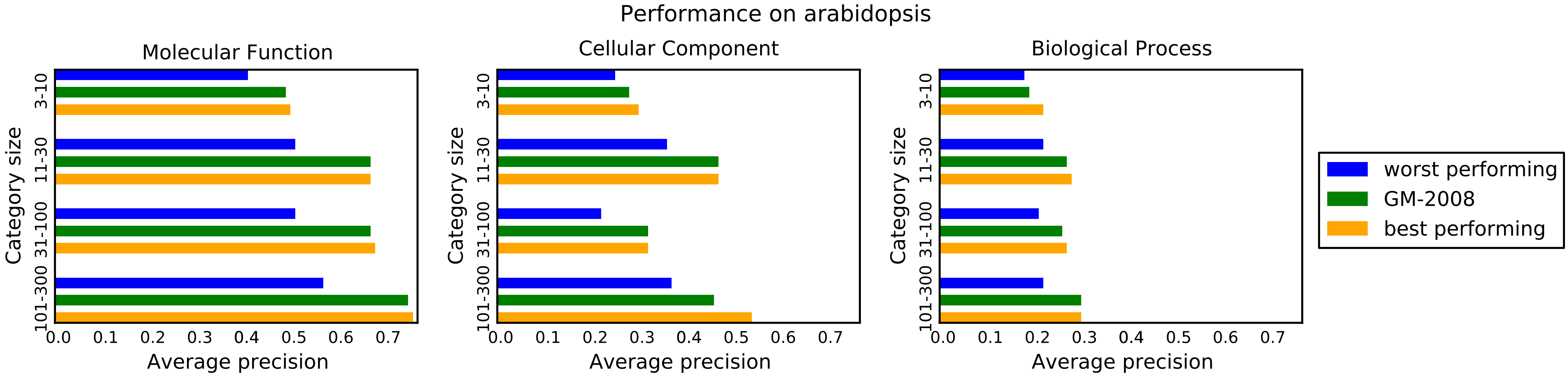

Performance on yeast
Molecular Function
Cellular Component
Biological Process
Category size
3-10
11-30
31-100
101-300
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
Average precision
worst performing
GM-2008
best performing


Performance on mouse
Molecular Function
Cellular Component
Biological Process
Category size
3-10
11-30
31-100
101-300
0.0
0.1
0.2
Average precision
worst performing
GM-2008
best performing


Performance on human
Molecular Function
Cellular Component
Biological Process
Category size
3-10
11-30
31-100
101-300
0.0
0.1
0.2
Average precision
worst performing
GM-2008
best performing


Performance on fly
Molecular Function
Cellular Component
Biological Process
Category size
3-10
11-30
31-100
101-300
0.0
0.1
0.2
0.3
0.4
0.5
0.6
Average precision
worst performing
GM-2008
best performing


Performance on worm
Molecular Function
Cellular Component
Biological Process
Category size
3-10
11-30
31-100
101-300
0.0
0.1
0.2
Average precision
worst performing
GM-2008
best performing


Performance on arabidopsis
Molecular Function
Cellular Component
Biological Process
Category size
3-10
11-30
31-100
101-300
Average precision
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
worst performing
GM-2008
best performing