```
SetDirectory[
    "C:/Users/serha/OneDrive/Masaüstü/MyRepo/master_thesis_MMT003/210507_time_windows_and
      _OR_model"];
```

In[◦]:= ```
Get["../algoritm_packages/SingleNetworks-algorithm-package-2.wl"]
(* ?SingleNetworks`* *)
```

In[◦]:= ```
datafull = Import["../data/ccm_manipulated_347418.csv"];
```

Data with Sliding Time Windows

In[◦]:= ```
x1 = Round@Ceiling[Length@datafull / 10, 1];
{a, b, c, d, e, f, g, h, i, j} = Join[Range[x1, Length@datafull, x1], {Length@datafull}];
data1 = Join[{Take[datafull, {1, a}]},
    Flatten[Table[{Take[datafull, {z[[1]] - x1 / 2, z[[2]] - x1 / 2}],
        Take[datafull, {z[[1]], z[[2]]}]}, {z,
        Partition[{a, b, c, d, e, f, g, h, i, j}, 2, 1]}], 1]];
win1 = Length@data1;
```

In[◦]:= ```
step1 = 11;
step2 = 11;
AbsoluteTiming[widthdataintimewindowsFixedstep1 =
    snetworkdatabinnedintimewindows[data1, 9, step1, win1];]
```

Out[◦]= {107.245, Null}

In[◦]:= ```
graphsandnodenumbers1 = Table[snetworkgraph[widthdataintimewindowsFixedstep1[[1]][[i]],
    widthdataintimewindowsFixedstep1[[2]][[i]], 2, 7, 400, Green], {i, Range@win1}];
```

In[◦]:= ```
graphsandnodenumbers1[[4, 1]]
```
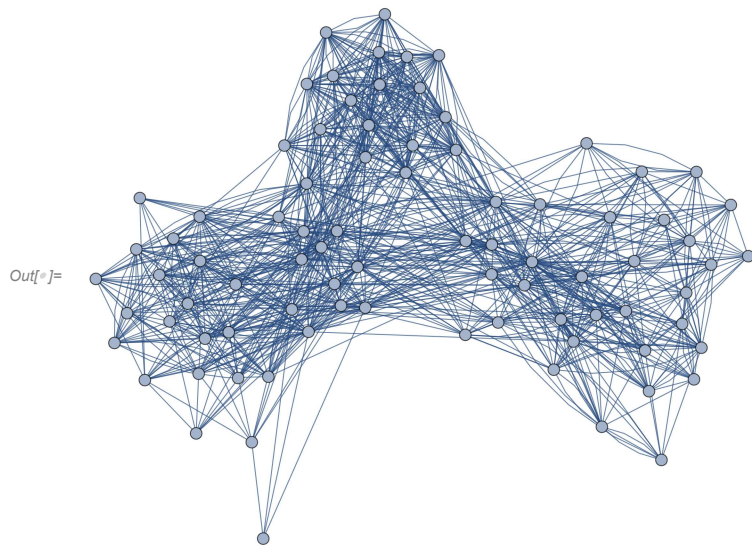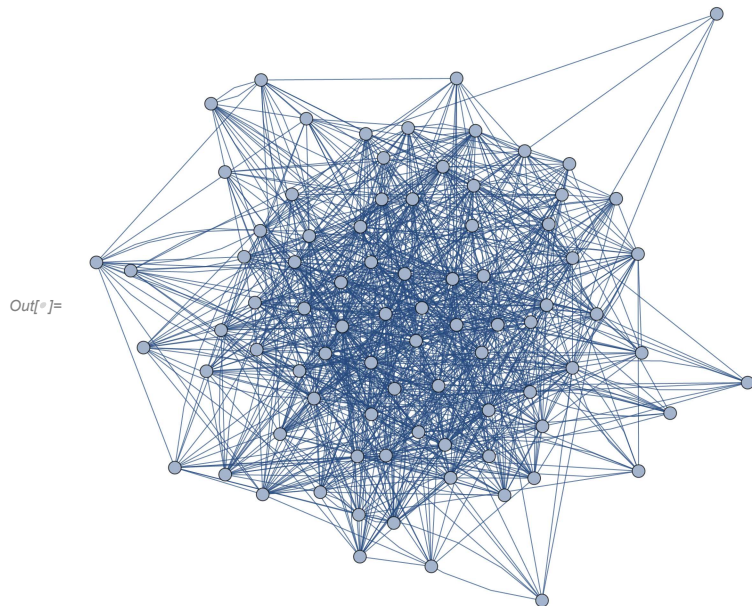
Out[◦]=

```
In[ ]:= randomizinggraphdegfxd[graphsandnodenumbers1[[4, 1]]]
       randomizinggraphmod[graphsandnodenumbers1[[4, 1]]]
       zscorefunctionfortwonullmodels[graphsandnodenumbers1[[4, 1]]]
```

Out[ ]=

Out[ ]=

Out[ ]= {33.797, -3.01061}

```
In[ ]:= step1 = 1;
       step2 = 1;
       AbsoluteTiming[thicknessdataintimewindowsFixedstep1 =
         snetworkdatabinnedintimewindows[data1, 10, step1, win1];]
```
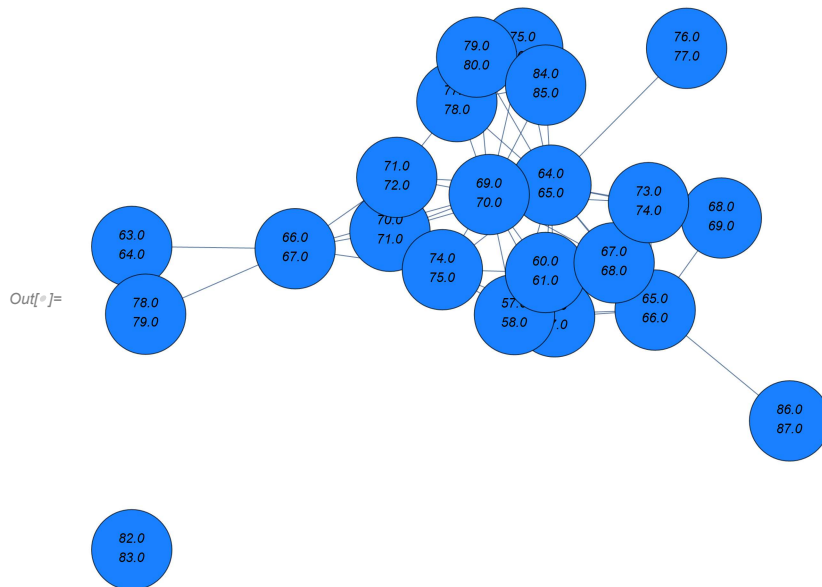
Out[ ]= {21.8442, Null}

In[ ]:= **graphsandnodenumbers2 =**
Table[snetworkgraph[thicknessdataintimewindowsFixedstep1[[1]][[i]],
thicknessdataintimewindowsFixedstep1[[2]][[i]], 2,
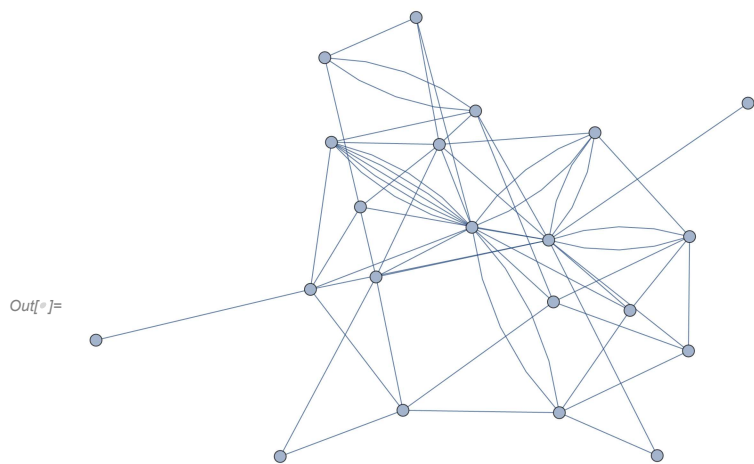**7, 400, RGBColor[0.1, 0.5, 1.]], {i, Range@win1}];**

In[ ]:= **graphsandnodenumbers2[[13, 1]]**

Out[ ]=

In[ ]:= **randomizinggraphdegfxd[graphsandnodenumbers2[[13, 1]]]**
randomizinggraphmod[graphsandnodenumbers2[[13, 1]]]
zscorefunctionfortwonullmodels[graphsandnodenumbers2[[13, 1]]]

Out[ ]=

Out[ ]=

Out[ ]= {1.884, -0.439538}