In [17]:
```
%matplotlib inline

import mltools.cluster as cluster
import mltools as ml
import numpy as np
import matplotlib.pyplot as plt
import mltools.dtree as dtree
from scipy import linalg


Xtr = np.genfromtxt("data/X_train.txt", delimiter=None)
Ytr = np.genfromtxt("data/Y_train.txt", delimiter=None)
```

In [14]:
```
#z, join = cluster.agglomerative(Xtr[:100,:3], 5)
```

In [22]:
```
from mpl_toolkits.mplot3d import Axes3D

U, s, V = linalg.svd( Xtr[:10000,:], full_matrices=False )
#Sig = mat(eye(S)*s[:S])
#tak out columns you don't need
newdata = Xtr[:1000,:3]
z, join = cluster.agglomerative(newdata, 3)
# this line is used to retrieve dataset
#~ new = U[:,:2]*Sig*V[:2,:]

fig = plt.figure()
ax = fig.add_subplot(111, projection='3d')
colors = ['blue','red','yellow', 'black', 'green']
c= [colors[int(clusterNo)] for clusterNo in z ];
ax.scatter(newdata[:,0],newdata[:,1],newdata[:,2], color= c)
#for i in xrange(Xtr.shape[0]):
#    ax.scatter(newdata[i,0],newdata[i,1])
plt.xlabel('SVD1')
plt.ylabel('SVD2')
plt.savefig('svdWithClustering.png')
```