

In [1]:

```
import matplotlib.pyplot as plt
import numpy as np
import pandas as pd
```

In [2]:

```
data_df=pd.read_excel(r"C:\Users\user\Desktop\Folds5x2_pp.xlsx")
```

In [3]:

```
data_df.head()
```

Out[3]:

	AT	V	AP	RH	PE
0	14.96	41.76	1024.07	73.17	463.26
1	25.18	62.96	1020.04	59.08	444.37
2	5.11	39.40	1012.16	92.14	488.56
3	20.86	57.32	1010.24	76.64	446.48
4	10.82	37.50	1009.23	96.62	473.90

In [4]:

```
x=data_df.drop(["PE"],axis=1).values
y=data_df["PE"].values
```

In [5]:

```
print(x)
```

```
[[ 14.96  41.76 1024.07  73.17]
 [ 25.18  62.96 1020.04  59.08]
 [  5.11  39.4  1012.16  92.14]
 ...
 [ 31.32  74.33 1012.92  36.48]
 [ 24.48  69.45 1013.86  62.39]
 [ 21.6   62.52 1017.23  67.87]]
```

In [6]:

```
print(y)
```

```
[463.26 444.37 488.56 ... 429.57 435.74 453.28]
```

In [7]:

```
from sklearn.model_selection import train_test_split
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.3,random_state=0)
```

In [8]:

```
from sklearn.linear_model import LinearRegression
ml=LinearRegression()
ml.fit(x_train,y_train)
```

Out[8]:

LinearRegression()

In a Jupyter environment, please rerun this cell to show the HTML representation or trust the notebook.

On GitHub, the HTML representation is unable to render, please try loading this page with nbviewer.org.

In [9]:

```
y_pred=ml.predict(x_test)
print(y_pred)
```

```
[431.40245096 458.61474119 462.81967423 ... 432.47380825 436.16417243
 439.00714594]
```

In [10]:

```
ml.predict([[14.96,41.76,1024.07,73.17]])
```

Out[10]:

```
array([467.34820092])
```

In [11]:

```
from sklearn.metrics import r2_score
r2_score(y_test,y_pred)
```

Out[11]:

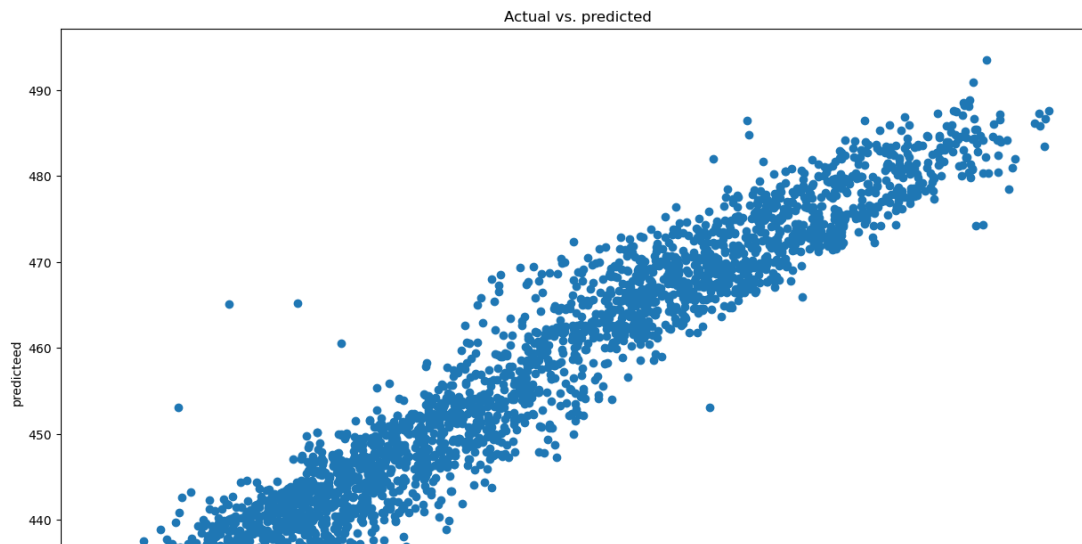
```
0.9304112159477683
```

In [12]:

```
import matplotlib.pyplot as plt
plt.figure(figsize=(15,10))
plt.scatter(y_test,y_pred)
plt.xlabel("Actual")
plt.ylabel("predicted")
plt.title("Actual vs. predicted")
```

Out[12]:

Text(0.5, 1.0, 'Actual vs. predicted')



In [15]:

```
pred_y_df=pd.DataFrame({"Actual Value":y_test,"predicted Value":y_pred,"Difference":y_te  
pred_y_df[0:20]
```

Out[15]:

	Actual Value	predicted Value	Difference
0	431.23	431.402451	-0.172451
1	460.01	458.614741	1.395259
2	461.14	462.819674	-1.679674
3	445.90	448.601237	-2.701237
4	451.29	457.879479	-6.589479
5	432.68	429.676856	3.003144
6	477.50	473.017115	4.482885
7	459.68	456.532373	3.147627
8	477.50	474.342524	3.157476
9	444.99	446.364396	-1.374396
10	444.37	441.946411	2.423589
11	437.04	441.452599	-4.412599
12	442.34	444.746375	-2.406375
13	440.74	440.874598	-0.134598
14	436.55	438.374490	-1.824490
15	460.24	454.370315	5.869685
16	448.66	444.904201	3.755799
17	432.94	437.370808	-4.430808
18	452.82	451.306760	1.513240
19	432.20	427.453009	4.746991

In []: