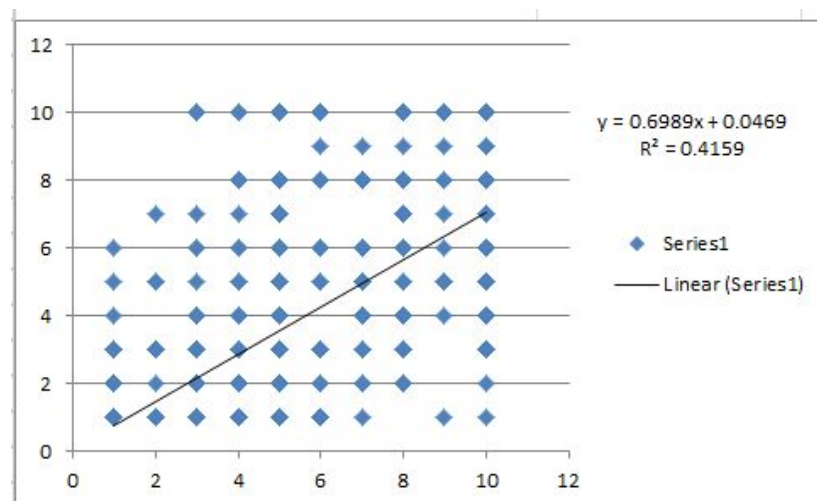


| Correlation Between                                | Correlation Coefficient | Result                |
|--|-------------------------|-----------------------|
| Clump Thickness & Uniformity of Cell Size          | 0.644912504             | moderately correlated |
| Uniformity of Cell Size & Uniformity of Cell Shape | 0.906881913             | highly correlated     |
| Uniformity of Cell Shape & Marginal Adhesion       | 0.6830792               | moderately correlated |
| Marginal Adhesion & Single Epithelial Cell Size    | 0.599599068             | moderately correlated |
| Single Epithelial Cell Size & Bare Nuclei          | 0.57757338              | moderately correlated |
| Bare Nuclei & Bland Chromatin                      | 0.676390294             | moderately correlated |
| Bland Chromatin & Normal Nucleoli                  | 0.665877809             | moderately correlated |
| Normal Nucleoli & Mitosis                          | 0.428335749             | weakly correlated     |
| Clump Thickness & Mitosis                          | 0.350033856             | weakly correlated     |

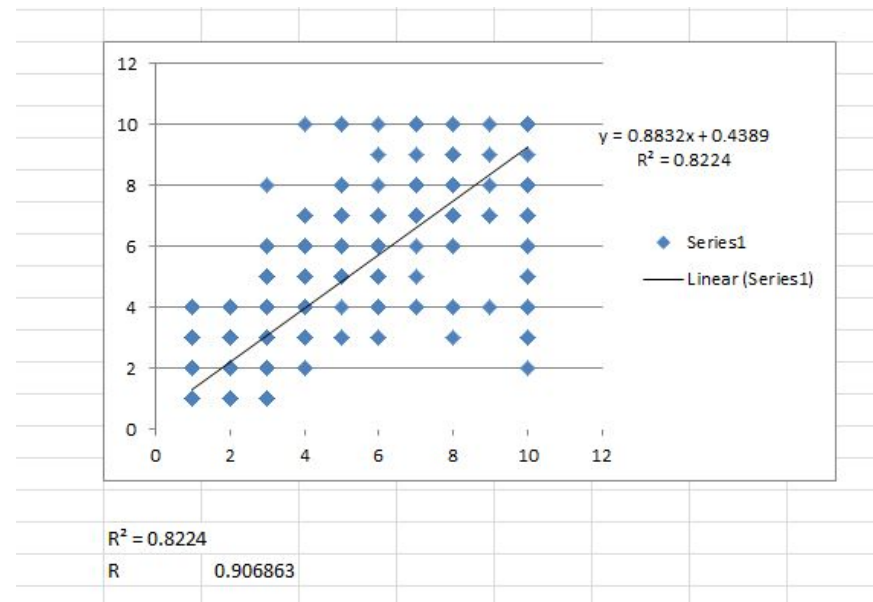
### Clump Thickness vs Uniformity of Cell Size Correlation



|         |             |
|---------|-------------|
| $R^2 =$ | 0.4159      |
| $R =$   | 0.644903093 |

|                |                     |                       |               |                |                       |                  |                    |                    |
|----------------|---------------------|-----------------------|---------------|----------------|-----------------------|------------------|--------------------|--------------------|
| Multiple F     | 0.645366384         |                       |               |                |                       |                  |                    |                    |
| R Square       | 0.416497769         |                       |               |                |                       |                  |                    |                    |
| Adjusted R     | 0.415659404         |                       |               |                |                       |                  |                    |                    |
| Standard Error | 2.153890801         |                       |               |                |                       |                  |                    |                    |
| Observations   | 698                 |                       |               |                |                       |                  |                    |                    |
| ANOVA          |                     |                       |               |                |                       |                  |                    |                    |
|                | <i>df</i>           | <i>SS</i>             | <i>MS</i>     | <i>F</i>       | <i>Significance F</i> |                  |                    |                    |
| Regression     | 1                   | 2304.765589           | 2304.766      | 496.7975       | 1.78897E-83           |                  |                    |                    |
| Residual       | 696                 | 3228.914926           | 4.639246      |                |                       |                  |                    |                    |
| Total          | 697                 | 5533.680516           |               |                |                       |                  |                    |                    |
|                | <i>Coefficients</i> | <i>Standard Error</i> | <i>t Stat</i> | <i>P-value</i> | <i>Lower 95%</i>      | <i>Upper 95%</i> | <i>Lower 95.0%</i> | <i>Upper 95.0%</i> |
| Intercept      | 2.547862428         | 0.116953688           | 21.78523      | 1.25E-80       | 2.3182381             | 2.777487         | 2.3182381          | 2.777486757        |
| 1              | 0.595704121         | 0.026726427           | 22.28895      | 1.79E-83       | 0.543230035           | 0.648178         | 0.54323004         | 0.648178207        |

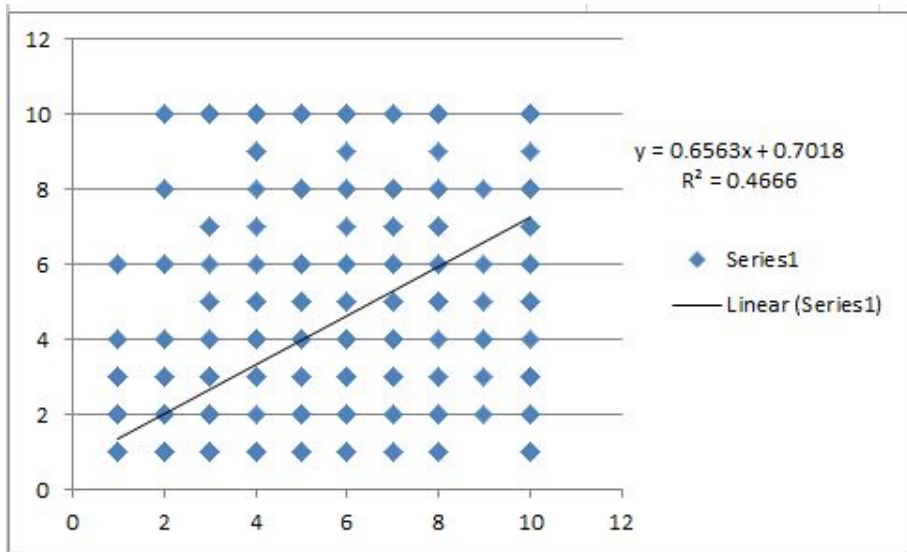
## Uniformity of Cell Size vs Uniformity of Cell Shape correlation



## Regression Analysis

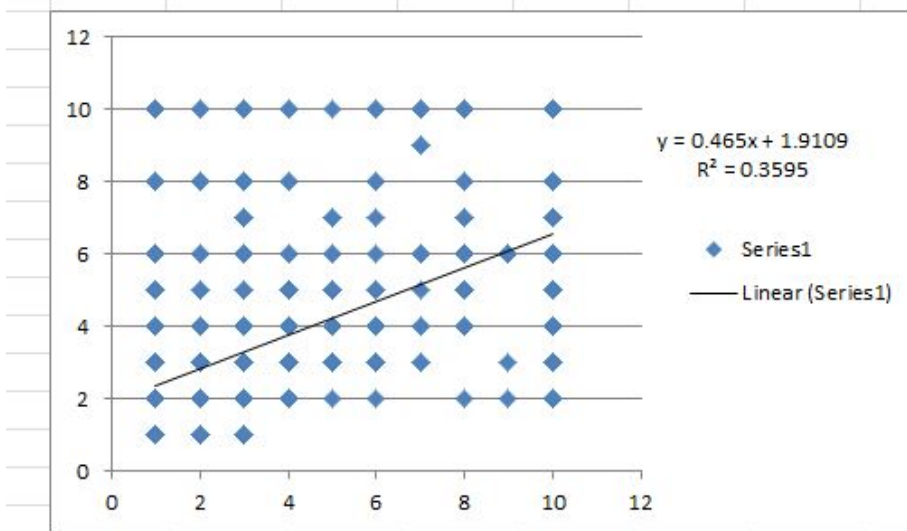
| SUMMARY OUTPUT        |              |                |          |          |                |           |             |             |
|-----------------------|--------------|----------------|----------|----------|----------------|-----------|-------------|-------------|
| Regression Statistics |              |                |          |          |                |           |             |             |
| Multiple R            | 0.906813669  |                |          |          |                |           |             |             |
| R Square              | 0.82231103   |                |          |          |                |           |             |             |
| Adjusted R Square     | 0.82205573   |                |          |          |                |           |             |             |
| Standard Error        | 1.287681307  |                |          |          |                |           |             |             |
| Observations          | 698          |                |          |          |                |           |             |             |
| ANOVA                 |              |                |          |          |                |           |             |             |
|                       | df           | SS             | MS       | F        | Significance F |           |             |             |
| Regression            | 1            | 5340.74285     | 5340.743 | 3220.957 | 2.539E-263     |           |             |             |
| Residual              | 696          | 1154.053712    | 1.658123 |          |                |           |             |             |
| Total                 | 697          | 6494.796562    |          |          |                |           |             |             |
|                       | Coefficients | Standard Error | t Stat   | P-value  | Lower 95%      | Upper 95% | Lower 95.0% | Upper 95.0% |
| Intercept             | 0.148057229  | 0.071764689    | 2.063093 | 0.039474 | 0.007156       | 0.2889585 | 0.007156    | 0.288958458 |
| 1                     | 0.9311272    | 0.016406524    | 56.75347 | 2.5E-263 | 0.898914988    | 0.9633394 | 0.898914988 | 0.963339411 |

Uniformity of Cell Shape vs Marginal Adhesion correlation



|                |             |
|----------------|-------------|
| $R^2 = 0.4666$ |             |
| R=             | 0.683081254 |

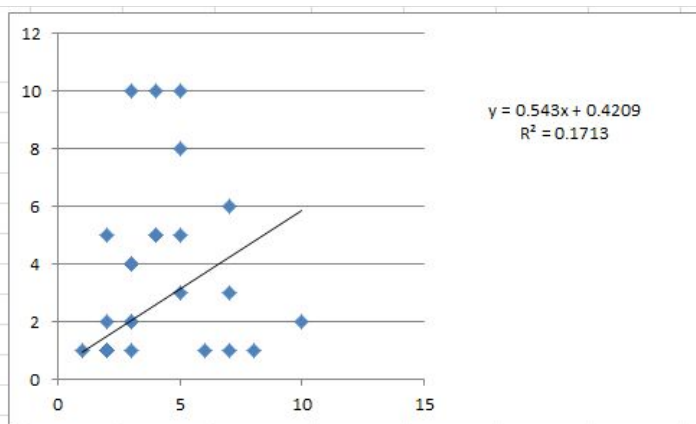
Marginal Adhesion & Single Epithelial Cell Size correlation



|         |          |
|---------|----------|
| $R^2 =$ | 0.3595   |
| R=      | 0.599583 |

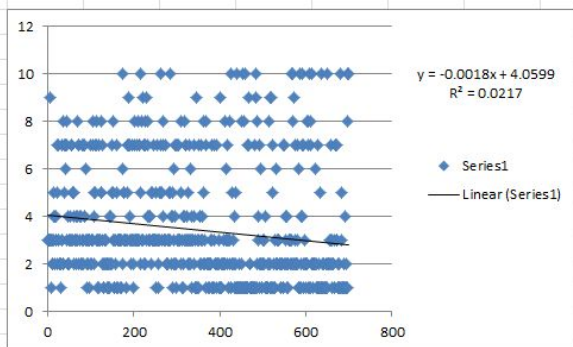
| SUMMARY OUTPUT        |              |                |          |          |                |           |             |             |
|-----------------------|--------------|----------------|----------|----------|----------------|-----------|-------------|-------------|
| Regression Statistics |              |                |          |          |                |           |             |             |
| Multiple F            | 0.599402347  |                |          |          |                |           |             |             |
| R Square              | 0.359283174  |                |          |          |                |           |             |             |
| Adjusted R Square     | 0.358362604  |                |          |          |                |           |             |             |
| Standard Error        | 2.288206244  |                |          |          |                |           |             |             |
| Observations          | 698          |                |          |          |                |           |             |             |
| ANOVA                 |              |                |          |          |                |           |             |             |
|                       | df           | SS             | MS       | F        | Significance F |           |             |             |
| Regression            | 1            | 2043.48        | 2043.48  | 390.2833 | 2.63919E-69    |           |             |             |
| Residual              | 696          | 3644.178       | 5.235888 |          |                |           |             |             |
| Total                 | 697          | 5687.658       |          |          |                |           |             |             |
|                       |              |                |          |          |                |           |             |             |
|                       | Coefficients | Standard Error | t Stat   | P-value  | Lower 95%      | Upper 95% | Lower 95.0% | Upper 95.0% |
| Intercept             | 0.322492617  | 0.152803       | 2.110515 | 0.03517  | 0.022482927    | 0.622502  | 0.02248293  | 0.62250231  |
| 2                     | 0.772885198  | 0.039122       | 19.75559 | 2.64E-69 | 0.696073215    | 0.849697  | 0.69607322  | 0.84969718  |

### Single Epithelial Cell Size vs Bare Nuclei correlation



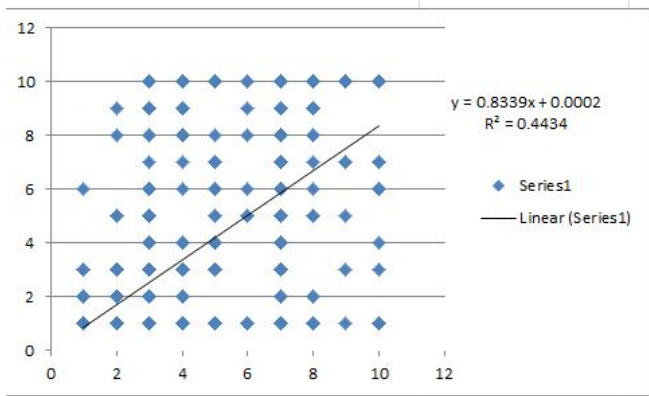
$R^2 = 0.1713$   
 $R = 0.413884$

### Bare Nuclei vs Bland Chromatin correlation



$R^2 = 0.0217$   
 $R = 0.147309$

Bland Chromatin vs Normal Nucleoli correlation

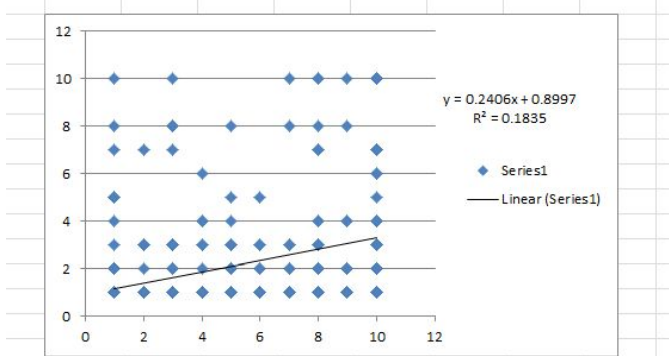


$R^2 = 0.4434$

0.665882873

| SUMMARY OUTPUT        |             |                |          |          |                |           |             |             |  |
|-----------------------|-------------|----------------|----------|----------|----------------|-----------|-------------|-------------|--|
| Regression Statistics |             |                |          |          |                |           |             |             |  |
| Multiple F            | 0.665914    |                |          |          |                |           |             |             |  |
| R Square              | 0.443442    |                |          |          |                |           |             |             |  |
| Adjusted R Square     | 0.442642    |                |          |          |                |           |             |             |  |
| Standard Error        | 1.821658    |                |          |          |                |           |             |             |  |
| Observations          | 698         |                |          |          |                |           |             |             |  |
| ANOVA                 |             |                |          |          |                |           |             |             |  |
|                       | df          | SS             | MS       | F        | Significance F |           |             |             |  |
| Regression            | 1           | 1840.218       | 1840.218 | 554.5432 | 1.24E-90       |           |             |             |  |
| Residual              | 696         | 2309.633       | 3.318439 |          |                |           |             |             |  |
| Total                 | 697         | 4149.851       |          |          |                |           |             |             |  |
|                       |             |                |          |          |                |           |             |             |  |
|                       | Coefficient | Standard Error | t Stat   | P-value  | Lower 95%      | Upper 95% | Lower 95.0% | Upper 95.0% |  |
| Intercept             | 1.912123    | 0.094631       | 20.20616 | 8.53E-72 | 1.726328       | 2.097919  | 1.726328    | 2.097919    |  |
| 1                     | 0.531871    | 0.022586       | 23.54874 | 1.24E-90 | 0.487526       | 0.576216  | 0.487526    | 0.576216    |  |

Normal Nucleoli vs Mitosis correlation

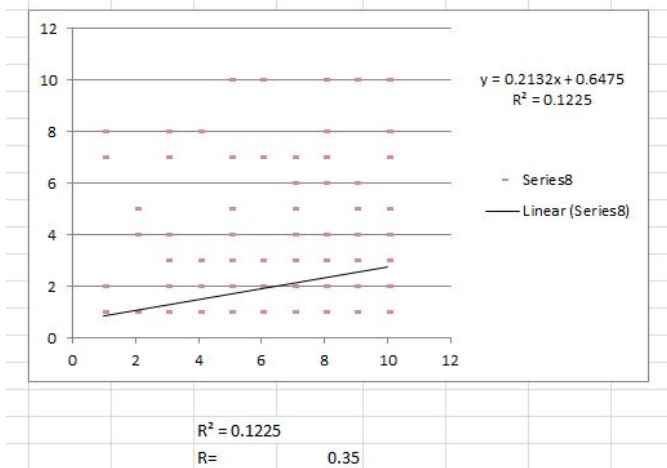


$R^2 = 0.1835$

R= 0.428369

| SUMMARY OUTPUT        |              |                |          |          |                |           |             |             |  |
|-----------------------|--------------|----------------|----------|----------|----------------|-----------|-------------|-------------|--|
| Regression Statistics |              |                |          |          |                |           |             |             |  |
| Multiple R            | 0.428185     |                |          |          |                |           |             |             |  |
| R Square              | 0.183343     |                |          |          |                |           |             |             |  |
| Adjusted R Square     | 0.182169     |                |          |          |                |           |             |             |  |
| Standard Error        | 2.762762     |                |          |          |                |           |             |             |  |
| Observations          | 698          |                |          |          |                |           |             |             |  |
| ANOVA                 |              |                |          |          |                |           |             |             |  |
|                       | df           | SS             | MS       | F        | Significance F |           |             |             |  |
| Regression            | 1            | 1192.669       | 1192.669 | 156.2547 | 1.72E-32       |           |             |             |  |
| Residual              | 696          | 5312.467       | 7.632854 |          |                |           |             |             |  |
| Total                 | 697          | 6505.136       |          |          |                |           |             |             |  |
|                       | Coefficients | Standard Error | t Stat   | P-value  | Lower 95%      | Upper 95% | Lower 95.0% | Upper 95.0% |  |
| Intercept             | 1.657487     | 0.142613       | 11.62228 | 1.16E-28 | 1.377484       | 1.937491  | 1.377484    | 1.937491    |  |
| 1                     | 0.762229     | 0.060977       | 12.50019 | 1.72E-32 | 0.642507       | 0.88195   | 0.642507    | 0.88195     |  |

## Mitosis vs Clump Thickness correlation



| SUMMARY OUTPUT        |              |                |          |          |                |           |             |             |  |
|-----------------------|--------------|----------------|----------|----------|----------------|-----------|-------------|-------------|--|
| Regression Statistics |              |                |          |          |                |           |             |             |  |
| Multiple R            | 0.350176     |                |          |          |                |           |             |             |  |
| R Square              | 0.122623     |                |          |          |                |           |             |             |  |
| Adjusted R Square     | 0.121363     |                |          |          |                |           |             |             |  |
| Standard Error        | 2.641164     |                |          |          |                |           |             |             |  |
| Observations          | 698          |                |          |          |                |           |             |             |  |
| ANOVA                 |              |                |          |          |                |           |             |             |  |
|                       | df           | SS             | MS       | F        | Significance F |           |             |             |  |
| Regression            | 1            | 678.5587       | 678.5587 | 97.27394 | 1.45E-21       |           |             |             |  |
| Residual              | 696          | 4855.122       | 6.97575  |          |                |           |             |             |  |
| Total                 | 697          | 5533.681       |          |          |                |           |             |             |  |
|                       | Coefficients | Standard Error | t Stat   | P-value  | Lower 95%      | Upper 95% | Lower 95.0% | Upper 95.0% |  |
| Intercept             | 3.50261      | 0.136336       | 25.69099 | 6.8E-103 | 3.234931       | 3.77029   | 3.234931    | 3.77029     |  |
| 1                     | 0.574935     | 0.058294       | 9.862755 | 1.45E-21 | 0.460483       | 0.689388  | 0.460483    | 0.689388    |  |



