

PRESS

Program for Rate Estimation and Statistical Summaries

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And

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Capabilities

- Confidence Intervals
- Histogram (Genuine vs. Imposter)
- ROC/DET + EER
- Sample size calculations

GOAL: Make these summaries more easily accessible

Formats

Data stored in

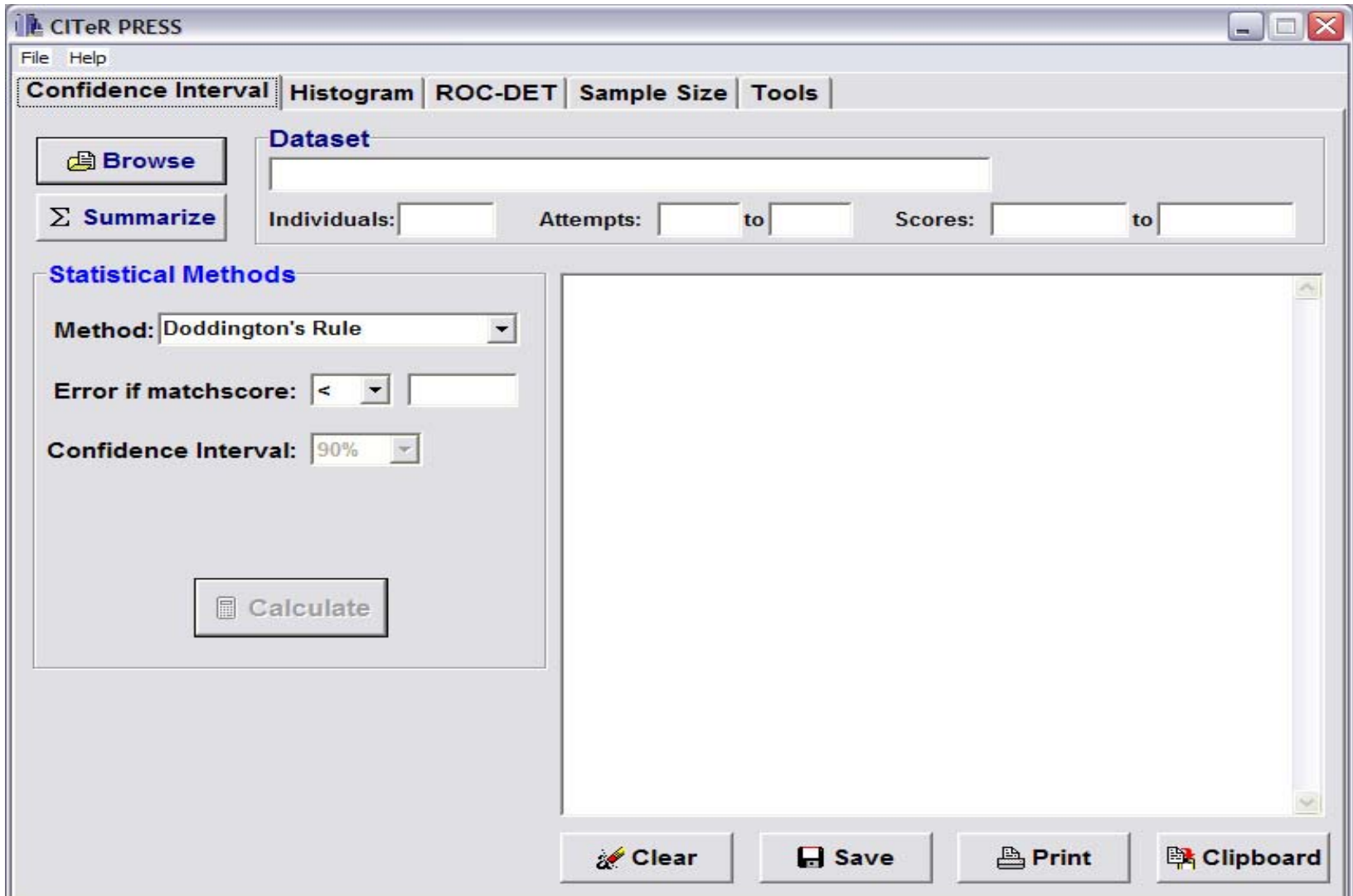
Text Files

Excel spreadsheets

*.prs formatted files

(PRESS can convert files to *.prs)

Overview

A screenshot of the CITeR PRESS software interface. The window title is 'CITeR PRESS' and it has a menu bar with 'File' and 'Help'. Below the menu bar are five tabs: 'Confidence Interval' (selected), 'Histogram', 'ROC-DET', 'Sample Size', and 'Tools'. On the left side, there are two buttons: 'Browse' (with a folder icon) and 'Summarize' (with a sigma symbol). The main area is divided into two sections. The top section is titled 'Dataset' and contains a text input field for the dataset name, and two rows of input fields: 'Individuals: []' and 'Attempts: [] to []', followed by 'Scores: [] to []'. The bottom section is titled 'Statistical Methods' and contains three rows of controls: 'Method: Doddington's Rule' (with a dropdown arrow), 'Error if matchscore: < []' (with a dropdown arrow and an input field), and 'Confidence Interval: 90%' (with a dropdown arrow). Below these controls is a 'Calculate' button (with a calculator icon). At the bottom of the window, there are four buttons: 'Clear' (with an eraser icon), 'Save' (with a floppy disk icon), 'Print' (with a printer icon), and 'Clipboard' (with a clipboard icon).

Confidence Intervals

Doddington's Rule

Best Practices/Beta-binomial

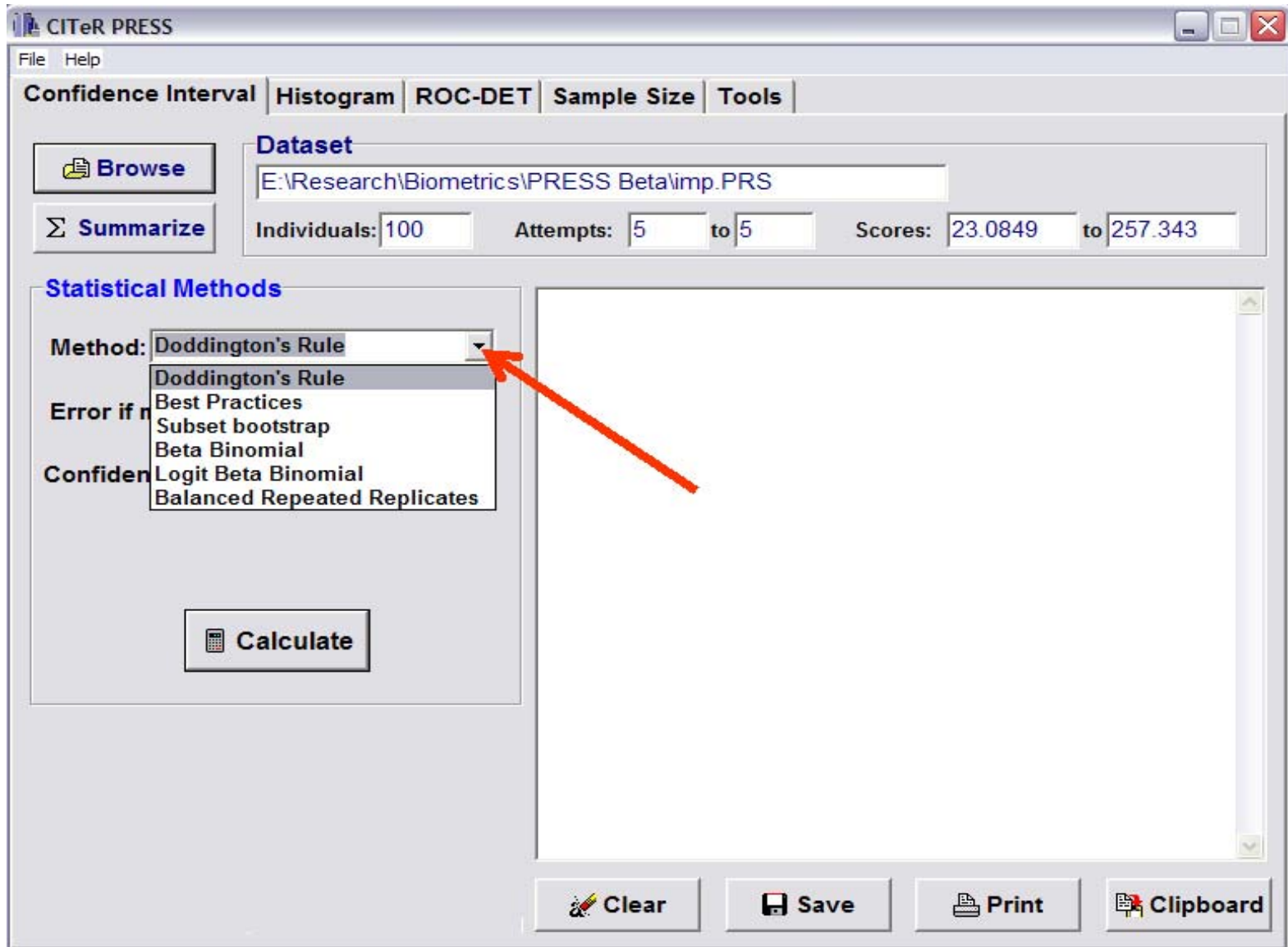
Subset Bootstrap

Logit Beta-binomial

Balanced Repeated Replicates

Not yet included Agresti & Coull-type
methods (poster)

Confidence Intervals

The screenshot shows the CITeR PRESS software interface. At the top, there are tabs for 'Confidence Interval', 'Histogram', 'ROC-DET', 'Sample Size', and 'Tools'. Below the tabs, there are buttons for 'Browse' and 'Summarize'. The 'Dataset' section contains a text box with the path 'E:\Research\Biometrics\PRESS Beta\imp.PRS' and input fields for 'Individuals: 100', 'Attempts: 5 to 5', and 'Scores: 23.0849 to 257.343'. The 'Statistical Methods' section has a dropdown menu for 'Method:' currently set to 'Doddington's Rule', with a list of other methods including 'Best Practices', 'Subset bootstrap', 'Beta Binomial', 'Logit Beta Binomial', and 'Balanced Repeated Replicates'. An orange arrow points to the dropdown menu. Below the methods list is a 'Calculate' button. At the bottom of the window, there are buttons for 'Clear', 'Save', 'Print', and 'Clipboard'.

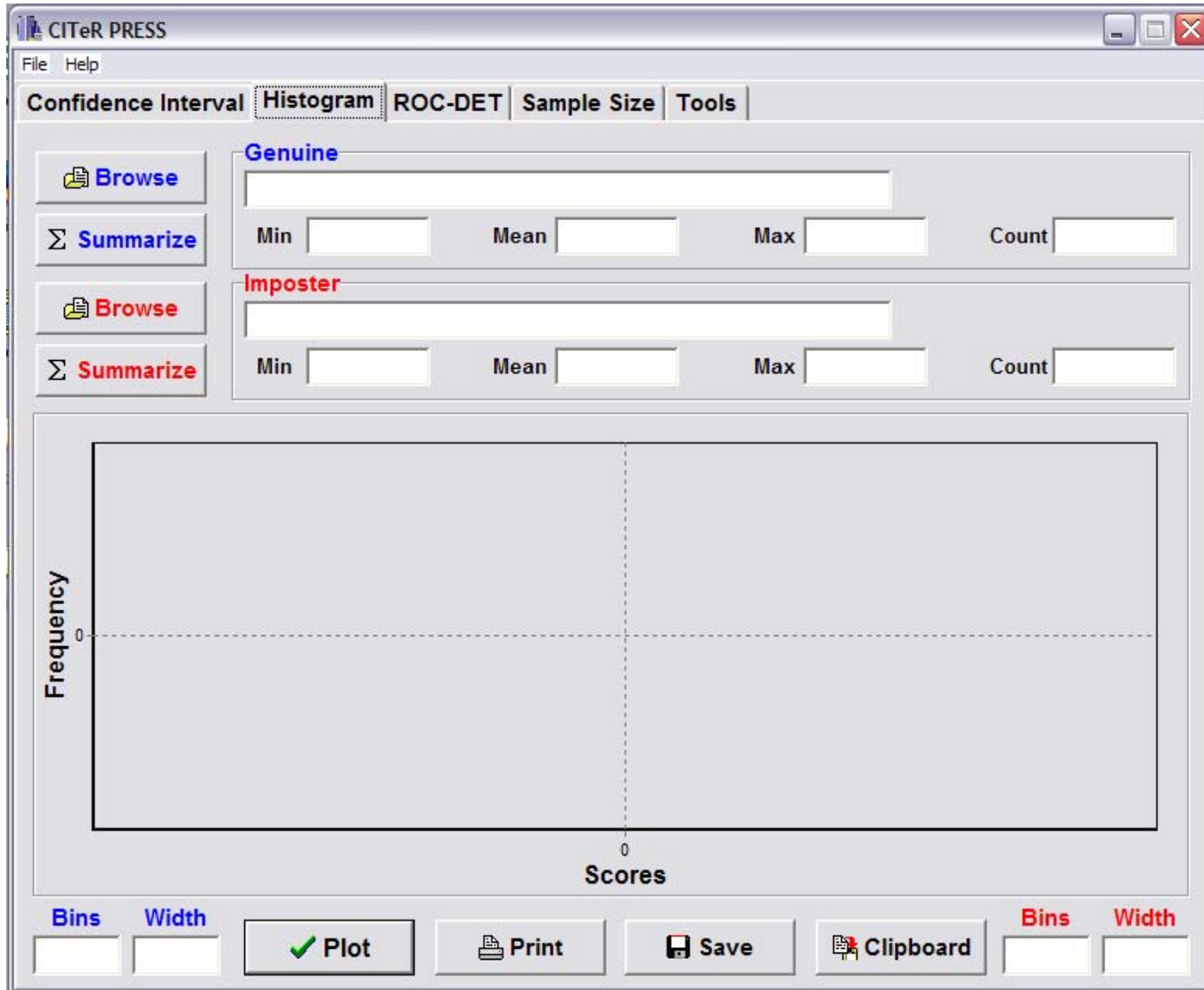
Histogram

Plot Histogram

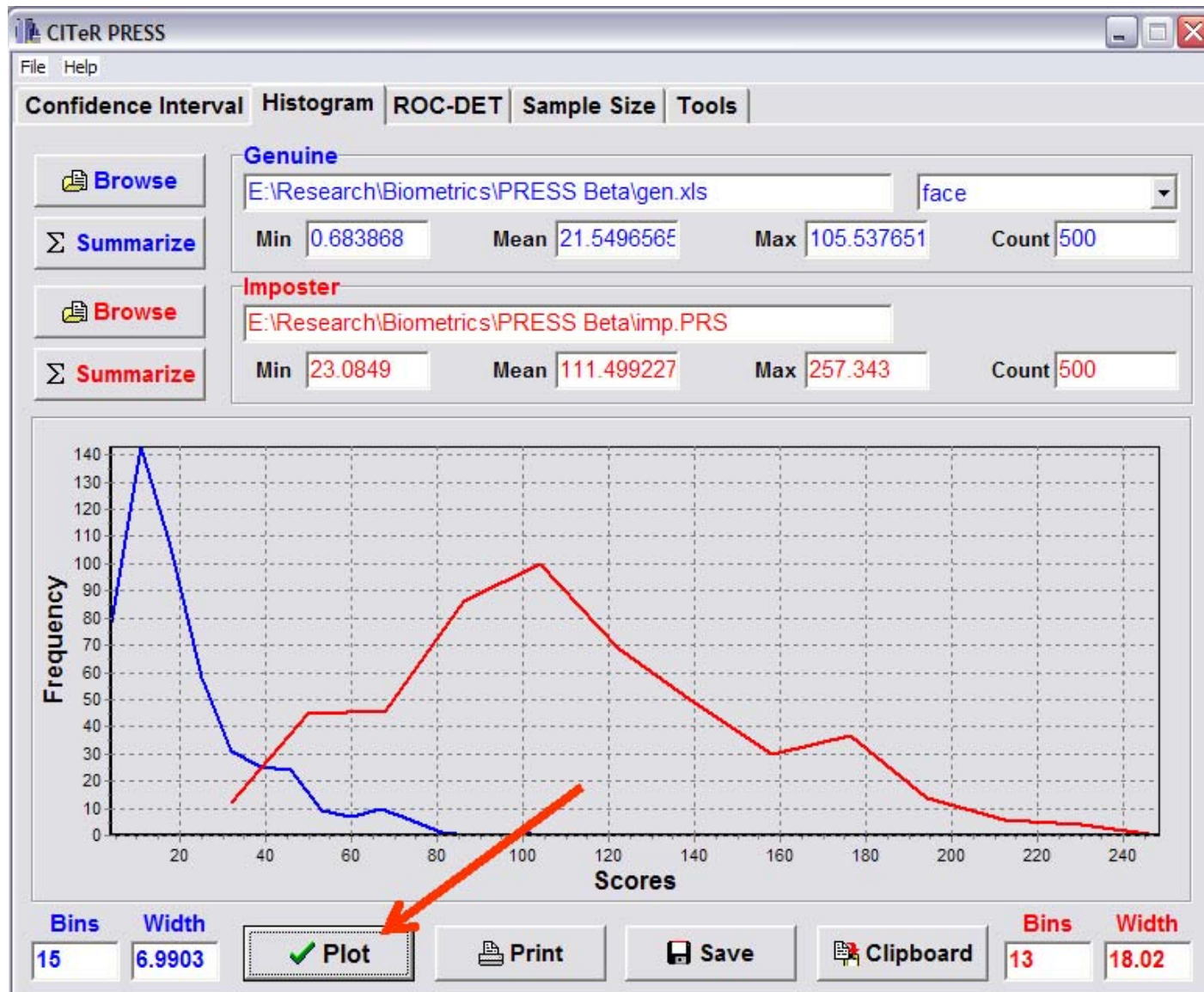
Imposter vs. Genuine

Number of bins for each is flexible

Histogram



Histogram



ROC-DET

Plot of ROC

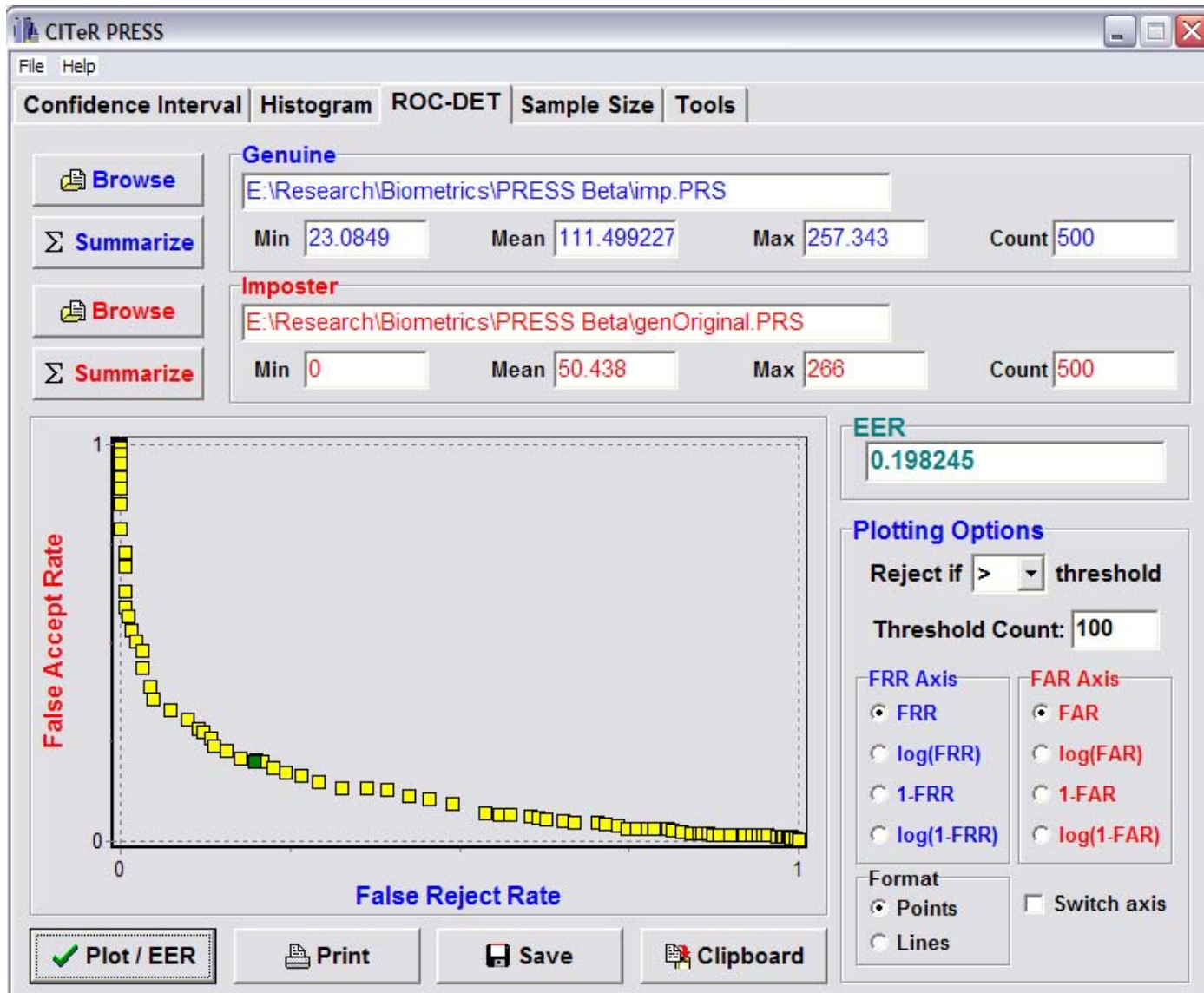
Change Axes (switch X and Y)

Chance scale (FNMR, $\log(\text{FNMR})$, $1-\text{FNMR}$, $\log(1-\text{FNMR})$, same for FMR)

Plot line or dots

Gives estimated EER

ROC-DET



Sample Size Calculators

Determine number of individuals needed to test, n

Given

error rate, π

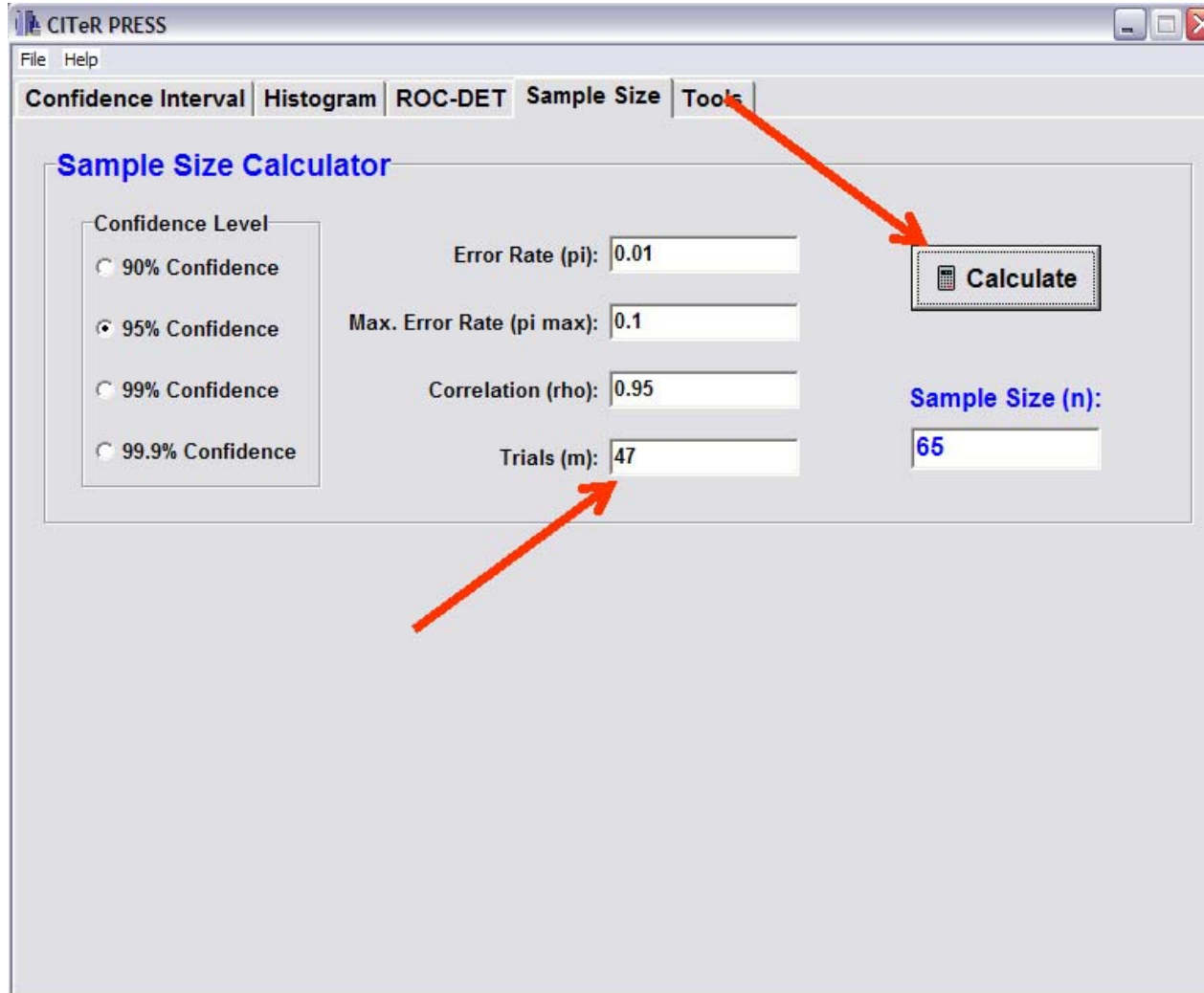
intra-comparison correlation, ρ

number of attempts per person, m

confidence level, $1-\alpha$

upper bound for confidence interval, π_{\max}

Sample Size Calculators

A screenshot of the CITeR PRESS software interface, specifically the 'Sample Size' tab. The window title is 'CITeR PRESS'. The menu bar includes 'File' and 'Help'. The main content area is titled 'Sample Size Calculator' and contains several input fields and a 'Calculate' button. Two red arrows point to the 'Calculate' button and the 'Trials (m)' field. The 'Confidence Level' section has four radio buttons: '90% Confidence', '95% Confidence' (selected), '99% Confidence', and '99.9% Confidence'. The 'Error Rate (pi)' field is set to 0.01, 'Max. Error Rate (pi max)' is 0.1, 'Correlation (rho)' is 0.95, and 'Trials (m)' is 47. The 'Sample Size (n)' field displays the result 65.

CITeR PRESS

File Help

Confidence Interval Histogram ROC-DET Sample Size Tools

Sample Size Calculator

Confidence Level

- 90% Confidence
- 95% Confidence
- 99% Confidence
- 99.9% Confidence

Error Rate (π): 0.01

Max. Error Rate (π max): 0.1

Correlation (ρ): 0.95

Trials (m): 47

Calculate

Sample Size (n):

65

CITeR PRESS

CITeR Membership (had since Spring meeting)

Software **FREELY** available

(post-Biometrics Symposium)

Documentation

<http://www.citer.wvu.edu/downloads/software.php>





DEMO

DEMO PRESS