

# TreeScan Version History

## SUMMARY

- 2011 **Version 1.0:** Poisson model, Bernoulli model
- 2014 **Version 1.1:** Tree-temporal scan statistic. Statistical power estimation. Data import wizard. Improved user interface.
- 2015 **Version 1.2:** Tree-temporal scan statistic adjusted for overall temporal pattern. Purely temporal scan statistic. Day of week adjustment.
- 2016 **Version 1.3:** Scan multiple trees and allowing for nodes with multiple parents. Statistical power estimation for the conditional Bernoulli, tree-temporal and purely temporal scan statistics.
- 2018 **Version 1.4:** Differential follow-up time.
- 2022 **Version 2.0:** Prospective analysis, Sequential Tree Scan Statistic, Bernoulli tree-time, Temporal graphs.

## DETAILS

### **Version 2.0, February 2022**

#### *New Analytical Features*

Added prospective analysis option for tree-time/time-only scans.

Added Sequential tree scan statistic (Unconditional Bernoulli).

Added Bernoulli tree-time analysis.

Temporal graphs in HTML format, depicting the observed and expected counts over time, both inside and outside the cluster.

#### *Other Improvements*

Ability to choose between generic date ranges and date-based ranges.

Added option to color tree visualization by recurrence interval.

Installation now bundles Java, so that it does not have to be pre-installed.

The GUI was revised to switch the order of the Input and Analysis tabs.

Added option to input control file separately from count file.

Added ability to restrict the minimum number of cases in scanned nodes.

Added 'Parent Node' column to results files.

#### *Minor Fixes*

Self-referencing nodes in tree-file generate error.

File wizard correction when selecting 'First row is column header' while saving import settings (verse importing now).

Last generated results file no longer truncated when opening parameter file in GUI.

### **Version 1.4, June 2018**

#### *New Analytical Features*

Differential follow-up time with temporal scan statistics.

Multiple ranges in the data time range.

Scanning risk window parameters.

Tree visualization in html output file.

*Minor Fixes*

Mac version updated to work with Oracle Java 9.

**Version 1.3, August 2016**

*New Analytical Features*

Scan multiple trees simultaneously.

Allows for leaves and nodes with multiple parents.

Statistical power estimation for the conditional Bernoulli model.

Statistical power estimation for the tree-temporal scan statistic.

Statistical power estimation for the purely temporal scan statistic.

Ability to restrict the scanning to only certain pre-specified levels of the tree.

*Minor Fixes*

Correction in import wizard that causes memory leak when importing file.

Correction to command-line override of randomization seed.

**Version 1.2, November 2015**

*New Analytical Features*

Tree-temporal scan statistic, conditioned on node and time, to adjust for overall temporal pattern.

Purely temporal scan statistic.

Adjustments for day of week and node-by-day of week interaction.

Calculation of attributable risk.

*Other Improvements*

Improved import wizard.

New example data sets.

Relative risk reported for all scan types, replacing observed divided by expected.

Tree structure attributes reported in the data summary.

**Version 1.1.2, March 2015**

*Minor Fixes*

Correction to v1.1.1 random data generation for unconditional Poisson power estimation.

**Version 1.1.1, March 2015**

*Improvements*

Statistical power estimates reported to a tabular file.

*Minor Fixes*

Correction to log likelihood tie-breaking mechanism when calculating p-values.

Correction to random data generation for conditional Poisson power estimation.

**Version 1.1, November 2014**

*New Analytical Features*

Tree-temporal scan statistic.

Statistical power estimation.

*Other Improvements*

Data import wizard  
Advanced graphical user interface options  
Application update feature  
Improved command-line options  
Improved user interface  
TreeScan user guide in .pdf format  
New TreeScan logo and icon

## **Version 1.0, 2011**

### *Analytical Features*

Poisson model  
Bernoulli model  
Simple, pairs, triples and ordinal cuts, defined by a cut type file

### *Other Improvements*

Separate case and tree input files  
Graphical user interface  
HTML results file  
Comma separated value (CSV) results data file  
Parallelized simulations