

# THE Cruncher

## Analyse large and complex datasets with SuperSTAR!

HRS has recently arranged to act as a distributor of SuperSTAR, a powerful yet easy-to-use suite of analytical software tools manufactured by Space-Time Research of Melbourne, Australia.

SuperSTAR has the speed (more than 1 million records per second) to deal with large data sets, yet maintains access to the raw data when required. The combination of the SuperCROSS interface and SuperSERVER tabulation engine is the best tool on the market for ad-hoc, exploratory analysis of demographic statistics, but it is also well-suited for large-scale production of summary statistics.

Data management tools provide individual confidentiality and data security.

The suite's SuperWEB module delivers

query power to end users via Web browsers without plug-ins or applets. Users can compose, run and store multi-dimensional tables and view results in table, chart and map form.

The SuperCHANNEL database builder makes it easy to pull data into SuperSTAR from relational databases, SAS datasets, spreadsheets and flat files.

Customers include Statistics NZ and many of the world's most advanced government statistical agencies as well as education, welfare, transportation, health, crime and security departments. Industries served include telecommunications, retailing and market research.

Contact Glen today for more information.

### Where to use SuperSTAR?

#### BUSINESS INTELLIGENCE

SuperSTAR supplies flexible and powerful business intelligence solutions without constraints.

#### STATISTICAL & SURVEY PROCESSING AND ANALYSIS

SuperSTAR is used by the worlds leading statistical and market research agencies.

#### WEB DATA DISSEMINATION

SuperSTAR has solutions that allow users to construct their own queries on any data.

#### AD HOC ANALYTICS

SuperSTAR offers you the freedom to ask any question without the need to program or wait.

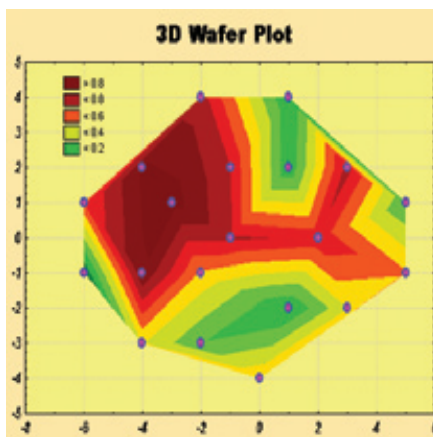
## STATISTICA 8

STATISTICA 8 contains many new features and enhancements, including better system level functionality, Microsoft office integration, and more statistics functions and graphics. Some of the notable features are:

- Works with 64 bit processors and integrates even more closely than before with MS Office.
- Robust statistics now available
- Additional plot types and improved functionality within graphs.
- Doing statistics or graphs "by groups" is easier.
- Data filtering, cleaning and handling outliers is improved.
- Calculation with formulas in the data spreadsheet is enhanced with more than 30 new functions. Do cumulative sums, date calculations and reference single cells.
- Deploy most statistical models with XML.

- Menus for Data Mining are improved, and a new Neural Network module replaces the old one.

Go to [www.hrs.co.nz/stat8pdf.aspx](http://www.hrs.co.nz/stat8pdf.aspx) to download a detailed 13-page description of all the changes, or contact Glen.



The new Wafer plot in STATISTICA 8



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## STATISTICA Automated Neural Networks (SANN)

This is one of the most advanced and best performing neural networks applications on the market, with numerous unique advantages.

It appeals to neural network experts by offering them a wide selection of network types and training algorithms.

New users in the field of neural computing will appreciate the unique Automatic Network Search, a tool that guides the user through the necessary procedures for creating neural networks.

Although similar to previous neural network programs from StatSoft, many changes have been made to improve the ease of use, the controllability and the ease of applying the models.

See [www.hrs.co.nz/SANN.aspx](http://www.hrs.co.nz/SANN.aspx) for details or contact Glen.

## Grapher 7

Grapher is the ideal tool for producing 2D plots, and basic 3D plots. (Use Surfer for advanced 3D plots.) Version 7 has more than 100 new features and enhancements - here are a few of the major additions:

Class Scatter Plots are 2D, 3D or polar graphs that shows your data as symbols which differ for each "class". Classes are based on a data column in your worksheet.

You can now control the width of bars based on a data column.

Grapher has always had strong automation facilities but now it can record actions from the user interface directly to a script. Users can run the script with the click of a button whenever they want to perform the recorded actions.

Contact Glen to try it out!

## @RISK 4.5.7

This update allows users of @RISK 4.5 for Excel to take full advantage of Excel 2007's features — including the vastly expanded worksheet grid. The update is FREE to maintenance subscribers.

Contact Glen for more information.

## SurveyPro4

SurveyPro4 includes the web survey add-on NetCollect, and the kiosk survey add-on DirectCollect. Software for data entry stations, previously known as KeyCollect, is now free of charge.

SurveyPro4 includes an integrated respondent emailer that allows you to manage all aspects of inviting people to complete your web-based survey forms. This includes sending email invitations, reminders and thank you messages with merged respondent data, such as the URL and password, in the email body or subject.

Glen has more information.

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## The Survey System 9.5

Version 9.5 of The Survey System, the market researcher's surveying package, was released in May. The new version includes many new features that enable you to do more with your data. These include ways to gather 'Other' responses quickly and easily, asking special questions, calculating logic, as well as browsing and editing data in spreadsheet format.

Notable features for web surveys include customising some of your graphics and controls, and highlighting questions on images and text (ideal for ad copy testing).

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## What'sBest 9.0

What'sBest 9.0 has faster, more powerful solvers and added support for Excel 2007. It is an average of 80% faster at solving large linear models due to enhancements to the Dual and Primal Simplex solvers.

The Barrier solver is an average of 20% faster on large scale linear and quadratic models. Enhancements to the Simplex and Barrier solvers also improve handling of numerically difficult problems.

Please contact Glen for more information.

## LINDO API 5.0

Release 5.0 of the LINDO API callable library of optimisation solvers supports a uniquely broad range of problem types, including linear, integer, quadratic, general nonlinear and non-convex global.

The new release includes significant speed and reliability enhancements to all the major solvers. (Large linear models solve an average of 80% faster using the newly enhanced Dual and Primal Simplex solvers.)

The new release includes several enhancements to the sparse LU decomposition routines and the addition of advanced basis repairing techniques. Relative to earlier releases, the Simplex solvers provide improved handling of numerically difficult problems.

Please contact Glen for more information.

## AULOS 3.2

AULOS is locally-made software for modelling the flow of water in channel networks, which may include pipes and tunnels. Unlike other commercial software packages, worked compliance test examples in building codes and standards can be reproduced accurately in AULOS.

The new features in AULOS V3.2 centre around the display of simulation results in three space dimensions and time. This is done by expanding the standard compact result format into map grid form compatible with mapping software such as the Surfer

package from Golden Software. You can now create a series of inundation and flow vector maps at any user-specified 2D resolution down to 1m x 1m.

Further, Animation Research Ltd of Dunedin now offer flood animation services based on AULOS output, and sample results can be viewed on the HYDRA web site [www.auloshydraulics.com](http://www.auloshydraulics.com).

Many other features have been added or improved: for example, the import of Lidar terrain data into AULOS, and the speed of simulation of long time series (tens of real years in minutes of model time).

Contact Bruce for more details.

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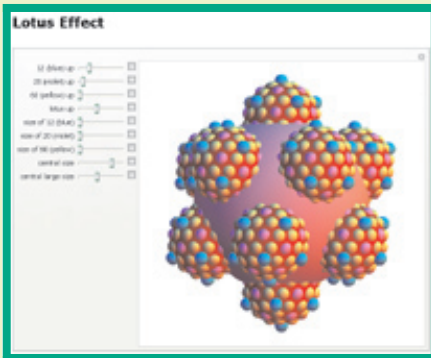
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## Mathematica 6

Mathematica 6 is now available!

Built on two decades of world-class algorithm and software development, Mathematica is relied on today by several million enthusiastic users around the world in engineering, mathematics, finance, economics, physics, chemistry, biology, the arts, and a wide range of other fields.

Mathematica 6 takes technical computing to a new level: more tightly bound, more natural, and more automated, applicable to a far wider range of areas than before. Central to this achievement is "instant interactivity"--taking models, simulations, computations, or just about any concepts and turning them into fully interactive applications, sometimes within seconds. This new release will help users improve



*An example of Dynamic Interactivity in Mathematica 6*

innovation through transforming ideas into highly optimised results.

Nearly a thousand new computational and interface features enhance Mathematica 6's revolutionary new approach. Several of these would individually classify Version 6 as a major release, and some broaden Mathematica to encompass the capabilities of whole competing products.

### Key new features include:

**Dynamic interactivity**, allowing sophisticated interactive interfaces to be created from single lines of input.

**High-impact adaptive visualisation** for automated creation of high-fidelity function and data graphics.

**Language for data integration**, including automatic integration of hundreds of standard data formats.

**Load-on-demand curated data** for maths, physics, chemistry, finance, geography, linguistics and more.

**Symbolic interface construction** for immediate creation of arbitrary interfaces from simple programs.

**Automated computational aesthetics**, with algorithmic optimisation for visual presentation.

Contact Glen for more information.

## MATLAB Statistics Toolbox

The Statistics Toolbox version 6.0 for MATLAB R2007a has a number of new features, including categorical and dataset arrays. These arrays provide a convenient and intuitive way of organising and processing data prior to analysis.

Categorical and dataset arrays are supported by a variety of new functions for manipulating the encapsulated data and are now accepted as input arguments in all Statistics Toolbox functions that make use of grouping variables.

Contact Bruce.

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## Real Time Toolbox 4.0

The Real Time Toolbox allows you to access external analog and digital signals from MATLAB/Simulink, with almost no hardware knowledge. (Just add a block to your Simulink diagram.)

The new version 4 offers:

- Complete off-the-shelf solution.
- Drivers for more than 150 industry-standard data acquisition boards.
- New Simulink block library with improved I/O interface for creating real-time simulations and control loops.
- Triggered blocks for Stateflow applications.
- Frame based blocks improve performance of DSP applications in Simulink significantly.

Contact Bruce for more information.

## SuperPro Designer

SuperPro Designer facilitates modelling, evaluation and optimisation of integrated processes in a wide range of industries.

Version 7.0 includes a new monoclonal antibody (MAB) example that explains in detail how to model, analyse, and debottleneck contemporary biopharmaceutical manufacturing processes.

Contact Glen for more information.

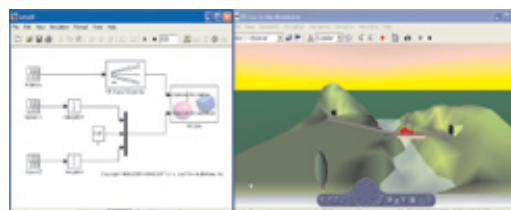
## Creating Virtual Environments with MATLAB

See how to solve some of the challenges of creating virtual worlds, in an article that describes visualisations created using MATLAB with Virtual Reality Toolbox, Image Processing Toolbox, and third-party tools. [www.hrs.co.nz/virtual.aspx](http://www.hrs.co.nz/virtual.aspx).

## MATLAB Student Version

MATLAB and Simulink Student Version R2007a is a boxed, shrink-wrapped product containing a DVD and 3 manuals. NZ\$200.00.

Order from some campus bookstores or from HRS - Current student ID required.



*An example of a Simulink model that has a virtual reality output*

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## PLECs 1.5

PLECS is a MATLAB toolbox used for high-speed simulations of electrical and power electronic circuits. Version 1.5 offers:

- Thermal analysis tools.
- PLECS Viewer to run models without a PLECS license.
- Enhanced three-phase transformer library.
- Enhanced fixed time-step simulation.
- New components.

Contact Bruce for more information.

## Free Seminars

### *Maple documents for numeric and symbolic calculations*

Maple is widely used in New Zealand for educating engineers about symbolic mathematics. With the features already in version 10, and with more features in version 11 and planned for version 12, Maple has become a powerful tool for the use of engineers working on real problems.

The seminar will be an introduction to the program for those who don't know Maple, and the presenter will demonstrate many of the new features found in version 10 and 11 so it will be of interest to existing users as well. It will include a description of the way in which Maple is particularly useful as a supplement to MATLAB.

### *Data analysis and modelling with MATLAB 7.4 and Simulink 6.6.*

Organisations as different as the Reserve Bank, Ministry of Fisheries and Tait Electronics know that MATLAB allows them to efficiently analyse and model data.

Come to this seminar to see a demonstration of MATLAB as a tool for data analysis and modelling in several application areas, including electrical and biological systems.

## Webinars

These presentations are viewed on your office computer, while you listen to the presenter on your telephone.

In most cases they are cut-down versions of the public seminars, but the Forecast Pro seminar is only available this way.

Mathcad, *STATISTICA* 24 July

Forecast Pro, SurveyPro 26 July

See [www.hrs.co.nz/seminars](http://www.hrs.co.nz/seminars) for details, times and registration forms.

### *Auditable engineering calculations with Mathcad version 14*

Mathcad helps organisations to become more efficient, through re-using their calculation documents on different jobs, and by avoiding many common types of calculation error. This is achieved by allowing you to make documents that look like your text books and yet automatically do all the mathematical calculations you are likely to want.

This seminar will show you what many of the major NZ engineering companies (and all your international competitors) already know – an investment in Mathcad software and training will repay itself many times over.

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### *Mathematica reinvented – the program and its new features*

Come to this seminar if you want a tool that will allow you to explore the entire world of mathematics and its applications, using the latest in interactive techniques.

We will introduce the program to those who don't know it, but will also thrill existing users with the new features such as Dynamic Interactivity or the automatic creation of high-fidelity, high-impact visualisations of functions and data. Statisticians will love the new features including EDA and computation functions.

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### *Saving time and gaining insights with STATISTICA version 8.*

By using *STATISTICA* to analyse data you save much time compared to using Excel, and you have many more graphical and numerical methods available to increase the depth of your understanding.

*STATISTICA* also surpasses the scope and ease of use of all other desktop statistics programs. This seminar will introduce *STATISTICA*'s main features, from the interaction with data sources through summarising of categorical and continuous data to the graphics that are part of all *STATISTICA* installations.

The emphasis will be on the ease enjoyed by all users, from total beginners who know only Excel, to advanced statisticians and data analysts. Both potential and existing users will find things of interest.

### *Survey your stakeholders*

With SurveyPro or Remark Office OMR the task of surveying your customers, students or staff becomes manageable and gives you useful management information. You can use paper forms or the Internet, and avoid data entry, form design and data interpretation hassles.

This seminar will demonstrate the programs in actual use, and explain the benefits that our many existing clients find with this software, in both business and academia.

### *Seminar Dates & Places*

Christchurch	9-10 July
Dunedin	11-12 July
Wellington	16-17 July
Auckland	19-20 July

See [www.hrs.co.nz/seminars](http://www.hrs.co.nz/seminars) for details of the seminars, times and registration forms.

## New Staff Member

Fiona Rawlinson has joined our administration staff, part time, to help with maintaining communication with our customer base.

## Contacting Us ...

We are based in Hamilton, but supply, support and demonstrate our products throughout New Zealand and parts of the South Pacific.

**Product Information:**  
[www.hrs.co.nz](http://www.hrs.co.nz)

### Email Addresses

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Glen	<a href="mailto:glen@hrs.co.nz">glen@hrs.co.nz</a>	Statistics/Mathematics sales
Leon	<a href="mailto:leon@hrs.co.nz">leon@hrs.co.nz</a>	Marketing
Ros	<a href="mailto:admin@hrs.co.nz">admin@hrs.co.nz</a>	Accounts and shipping
Joe	<a href="mailto:support@hrs.co.nz">support@hrs.co.nz</a>	Support
Ray	<a href="mailto:ray@hrs.co.nz">ray@hrs.co.nz</a>	Policy
Fiona	<a href="mailto:fiona@hrs.co.nz">fiona@hrs.co.nz</a>	Admin Support
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