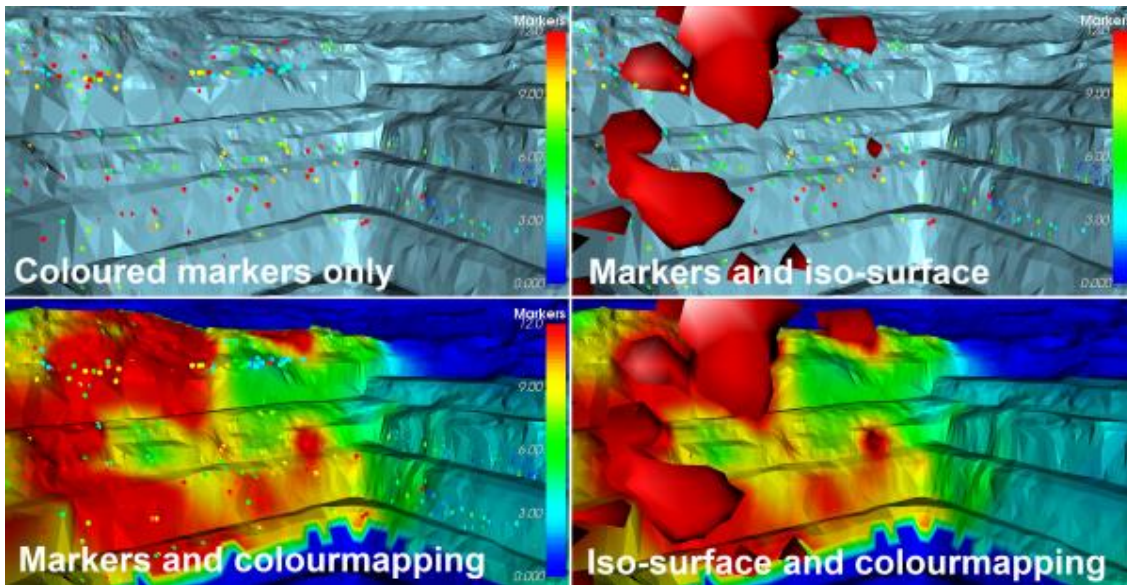


"Colours are nature gone wild".
Raheel Farooq

[View this email in your browser](#)

BasRock Software for Geotechs Newsletter Quarter 2



Download previous versions of the newsletter from [here](#).

The BasRock site contains 8 free software packages for download from [here](#).

[My blog](#) contains information on version additions and user instructions.

The latest software in development is currently also available at no cost:
[GEM4D](#): Geotechnical Manager in 4 Dimensions (see figure above). A 3D "drag-and-drop" DXF-visualiser that provides functionality required by Geotechnical Engineers.
[Trajec3D](#): A full 3D rigid body dynamics rock fall analysis program that accommodates fall bodies of any shape and size with

New stuff: 2014 Quarter 2

GEM4D, Trajec3D and PhotoCoreLog were previously developed with Visual Studio 2008, but transferred to Visual Studio 2013. Few functionality additions were made to Trajec3D and PhotoCoreLog, but an error that plagued PhotoCoreLog on some computers was corrected. GEM4D received major improvements.

The main GEM4D improvements and additions are:

1. The ability to colour markers and mapping discs on values were added during [Quarter 1](#). This was extended in Quarter 2 to the creation of iso-surfaces and colourmapping of triangulations - see above images. The iso-surface creation was discussed in a [News Flash](#), and the colour mapping is just one

dynamic movement in real time. See an old video of Trajec3D

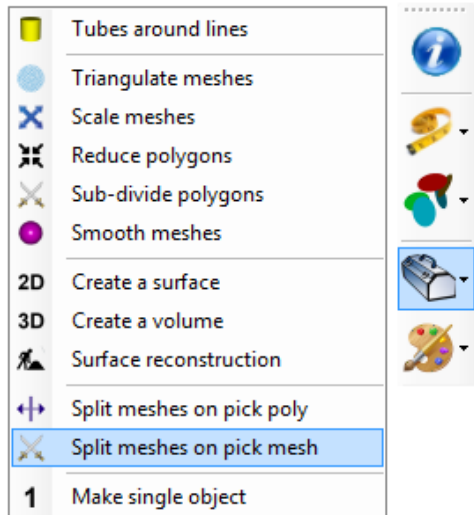
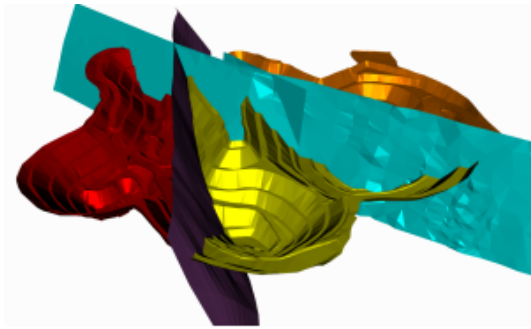
from [here](#) - updated videos are planned for next quarter.

[PhotoCoreLog](#): Image preparation and recoding of core logging measurements from photographs in a grid that can be exported to Excel.

additional check box below the iso-surface check box. As with the iso-surfaces, settings are automated to keep the interaction smooth and simple.

2. Meshes can now be split on any clipping (section), polygon plane, or mesh - see discussion below.
3. Discontinuities can be added with 1, 2, 3 or N pick points, and these planes can also be used to split mesh triangulations.
4. Digitising is now possible with the Measure option and can be exported as CSV-text files.
5. A camera widget can be toggled that display the camera distance from focus point, trend and plunge.
6. Automatic selection of the best OpenGL graphics settings from the installed hardware.
7. The dotNET 4.0 Framework is now required for GEM4D (previously dotNET 2.0). This change allows for easier multi-threading, asynchronous code, and provides many useful convenience methods.

Visit [My blog](#) for more details.



Splitting meshes

Splitting meshes on a polygon plane or another mesh works similar. Select the appropriate option on the right toolbar "**Toolbox => Split meshes on pick poly**" or "**Toolbox => Split meshes on pick mesh**". The mouse cursor in the scene will change to a cross for picking:

- "**Split meshes on pick mesh**" will split the other meshes with the picked mesh. When the splitting is completed, a file name will be requested for the split mesh. Provide a file name that is **not** loaded in GEM4D at the time. The split file layers will consist of the intersection lines and the mesh broken into separate layers. This is a complex process and could take a while to complete. Due to the complexity, errors could occur - please let me know if you experience trouble.
- "**Split meshes on pick poly**" will split the visible meshes on the picked polygon plane. Any polygon on any mesh could be used as the splitting plane. Currently, this function only splits the mesh and does not provide the intersection line, but otherwise works the same as "**Split meshes on pick mesh**".

For more information on splitting meshes during clipping (section) creation, read the post of 6 April 2014 on [My blog](#).