What's new in STIMPRO 2018?

Additions

- Added a new model to calculate skin evolution during carbonate matrix stimulation:
  - The new model is based on the Semi-empirical approach by Buijse and Glasbergen (2005) which describes wormhole front as a function of the interstitial velocity of the acidizing fluid.
  - Parameters such as permeability, mineralogy, temperature, and acid concentration are not modeled explicitly, but are incorporated into the model in the form of constants calculated from the optimal acid velocity and pore volumes of acid to break through (obtained from coreflood experiments).
  - The semi-empirical model is more representative of the fluid-mineral system in the acidizing treatment being designed or analyzed than the Peclet-number model (originally in *Stimpro*). Both models are available for users' selection.
  - The new model also accounts for the effect of higher acid velocity near the wellbore in wells with perforated completions.
- Skin evolution during treatment will be displayed during and after simulation run in the main window's task bar (below, in the same bar that shows the Model Time). This allows user to observe efficiency of treatment during simulation from any screen.
- Dual injection is now available in *Stimpro*. Users will now be able to design and simulate acidizing treatments of fluids injected down the annulus and tubing simultaneously.
- Upgraded coiled tubing design in the Surface Line/Tubing tab in the Wellbore Configuration – F7 screen. Users can now enter the coiled tubing details in a single line, with the length above surface in the Top MD column and as a negative number and length below surface (depth) in the Bot MD column as a positive number.
- Updated the Damage Composition (in Damage Profile) in Reservoir Parameters - F9 to automatically copy from the corresponding Rock Type entries (in Layers). This will speed up design time, and user could make changes if needed after.
- Added unit options to the Simulation Control - F10 screen. Users can now make timestep input in minutes or in seconds.
- Created new tutorials to help the user better understand the capabilities of design and analysis modes in *Stimpro*, and serve as guides in designing optimum treatments. The new examples also demonstrate the updated features in the program.

Enhancements

- Updated the maximum values for Precipitated Mass Fraction of CaF$_2$ and Precipitated Mass Fraction of Silica Gel to 1.0 in the sandstone acidizing model (Stimpro Model Parameters - Shift + F3), the previous version allowed a maximum input of 10, which is incorrect because mass fraction cannot be greater than 1.
- Hitting the Return key, when entering values in cells, will now move the cursor/selection to the next cell, for a more intuitive workflow.
- Fixed the pressure spike issue for pressure match plots in previous model.
- Fixed the unit mix-up glitch that happens when using "Production Database Derived Table" in Production Analysis mode.
- Fixed the errors in the previous version in calculating String volume (Wellbore configuration - F7) and Wellbore volume (Treatment Schedule - F6).