

## Features Introduced in Jade 6

The following summary of new and improved features in Jade 6 will be useful to previous Jade 5 users although this is by no means a complete list. If you are a Jade 2/3/4 user, refer to [What's New in Jade 5](#) for more new features.

- You can now calculate (simulate) XRD powder patterns from crystal structures. This is an optional feature (See the [licensed options](#) for more information), which is totally integrated into Jade's interface and supports direct-access to FIZ ICSD structure database (ICSD stands for Inorganic Crystal Structure Database).
- You can perform whole pattern fitting and Rietveld refinement with structure and/or structureless phase data. This is an optional feature (See the [licensed options](#) for more information), which is all new code, designed with advanced optimization algorithms and is also totally integrated into Jade's interface.
- You can now search your own archive of pattern files to find those containing a specific sample or scan id. Look for the 'Find...' button on the [read pattern files](#) dialog on how to use this feature. An alternative view of Explorer-Like folder tree listing is also implemented on this dialog for easier access to shared folders on the local area network.
- You can tell Jade to automatically overlay its related pattern files when a particular pattern file is read. This feature may be handy for those who analyze clay samples. See [auto-overlay of related pattern files](#) for more information.
- Some new pattern file types are added to the list of readable pattern files on [read pattern files](#) dialog. This includes a [generic x-y column file type](#) to read simple x-y column pattern data. Improvements have been made to existing pattern file readers. You can now show scan parameters in addition to the scan/sample id in the listing of all supported pattern files.
- New industrial-standard [XML support](#) for data input and output, which is a great option for (a) data exchange and archive, (b) generating compound reports and web documents, (c) interfacing to your laboratory information management system (LIMS).
- New [Xplorer utility](#) for browsing all XRD-related and Jade-Created files on your computer and local area network. This utility can also be used to view common image files or load XRD pattern files into Jade for processing.
- New and improved [multi-user support](#) on Win-NT/2000/XP (NTFS) with different access controls for power and casual users.
- New background fitting function to handle amorphous background removal. You can now strip peaks above the background curve if desired. See [background fitting dialog](#) for more.
- New peak search for pattern overlays and peak comparison report of all pattern overlays. See [peak search dialog](#) for more. You can now compare observed patterns by tabulating peak listings from multiple pattern overlays.
- You can now include plot of pattern traces on most report printouts (see the [user preferences](#) dialog for the option).
- You can now perform triclinic indexing to obtain unit cell data to an unknown pattern. You can also save the indexing results and restore them at a later time without the need of time-consuming re-indexing. You can also start the [WPF refinement](#) of an indexed cell from the indexing dialog or from the cell refinement dialog.
- New tetragonal and hexagonal lattice cursors, new multi-orders cursor for examining layer structures, and improved cubic indexing cursors. See [Bravais lattice cursors](#) for more information. [d-Scales](#) can now be printed in zoom window.
- You can use the [mouse scroll wheel](#) to pan and zoom in the pattern windows. You can also pan and

zoom by right-dragging directly in the zoom window.

- You can now specify lattice strain as well as crystallite size in [pattern simulation from the d-I lists](#). You can also perform dynamic simulation with changing crystallite size and lattice strain (fast PC strongly recommended).
- You can now tell Jade not to refine a specific profile parameter in profile initialization. You can also fit peak profiles to all pattern overlays automatically - a great time saver if you need to process a large number of scan data. See [profile fitting dialog](#) for more information.
- Improved [PDF access and indexing](#) dialog. You can now create PDF index files from ICDD level-1 as well as level-2 PDF database (MDI previously had to create PDF index files for users of level-1 databases). You can also convert index files (such as userfiles) created by Jade to PDF1 or PDF2 database files.
- Support for [ICDD PDF4-RDB](#) (relational database) using ODBC data source connection. With the exception of index file creation (subfiles are prefixed with 'RDB'), access to PDF4-RDB for boolean retrievals and s/m is identical to PDF2.
- You can now retrieve PDF data by literature references. Soundex algorithm allows recalls of mis-spelled mineral names. [X-Y scatter-plot](#) can be performed on PDF phases for cluster analysis. Multiple windows of PDF cards can now be viewed side by side. Persistent reflection markers can be rendered in zoom window when viewing a list of PDF hits, and I%-threshold can be set to eliminate d-I stick labels of weak reflections. You can now customize the [PDF hit list](#) to show or hide certain columns of PDF data, and color hits by PDF categories such as quality marks, data sources, and crystal symmetries.
- Access to [NIST Crystal Data](#) is again supported. You can create index files to retrieve NIST Crystal Data in Jade just like you can with ICDD PDF data.
- New [strong line marker dialog](#) for quick overlay and identification of routine phases (such as clay samples).
- Improved search/match dialog and algorithms for phase identification of unusual powder patterns. Ribbon plot (like the DNA markers) of checked hits is now supported in [search/match display](#) window. Hit list can be placed at the left or right side of pattern window. PDF hits can be accessed as secondary list side by side to the S/M hit list.
- Improved Deja vu search of your pattern archive. See [find similar patterns with thumbnail](#) for more information.
- Program setting files for wavelength data, FWHM and theta calibration curves, Ascii and d-I import filter files are now made global (i.e. shared) to all [user id's](#) created in Jade. They are no longer specific to a particular user ID.
- You can now idealize a noisy and broad scan pattern using the '[focus scan pattern](#)' filter, a data treatment that proves useful in phase identification for such patterns.
- You can generate a summary report of pattern statistics on [zoom window data & display](#) dialog.
- You can now view XRD plots and dialog graphs with [gradient-fill background](#) colors for enhanced presentation. You can now reverse display order of [3D pattern overlays](#) with a single checkbox.
- You can now have 'water mark' with your own id information or institution logo on printouts of plots and reports. See [print setup](#) dialog for more information.
- You can now launch other routine applications and browse your favorite web sites directly from customizable drop-down menus in Jade. See [interface to other programs](#) topic for more information.
- Important files to be deleted in Jade will now go to the Windows Recycle Bin so that they can be recovered if you later change your mind.

- You can place the [overlay toolbar](#) in between the pattern the zoom windows, and dock the editing toolbox on it. You can have 'marginless' windows to maximize the view areas of patterns on small laptop screens. You can also dock the [zoom & pan toolbar](#) at the left side of the zoom window if you need more vertical space for the color palette.
- You can [list pattern files](#) and all output files from the active data folders in the main window for easy access.
- You can [list peak reports and PDF hits](#) from retrievals and search/match in the top window for quick access.
- You can load a pattern in another instance of Jade if you hold down the Shift key while selecting a file from the MRU list or double-clicking a file on a list of pattern files. This makes it easy to view and process multiple patterns from the same folder. The number of instances of Jade you can run depends on the free system resources on a Win-95/98/Me PC.

If you are a Jade 5 user, you can choose between the new Jade 6 and the old Jade 5 layouts from the 'View | Screen Layout | Jade 5/6' menu. We have addressed issues in previous releases of Jade that have been brought to our attention by our users. For a program as complex as Jade, it is expected that an adventurous user may encounter some feature that doesn't perform in an expected manner. We greatly appreciate your report of any problem (no matter how trivial) in all releases of Jade. May the adventurous spirits be with you - happy exploring and discovering!