RELEASE NOTES

BioLight Studio Software FL
Version 1.03.02

REQUIREMENTS

The following items are required for operation of BL Studio:

- PerkinElmer LS 45/50/55 Spectrometer
- PC Pentium 500 MHz with CD-ROM drive and one free RS232 serial com port.
- At least 64 MB Ram
- Operating System: Windows 7, Windows Vista, Windows XP

INSTALLATION

Start the installation by double clicking on SetupBLStudio.exe. Please note that you need Windows administration rights to run the installation.
If BLStudio has already been installed you will be asked if you want to uninstall the existing version. To update the version first uninstall it, then start SetupBLStudio.exe again.
Now follow the instructions. During the installation you can change the program and data directory.
Please ensure that all analysts will have read/write access to the data directory.

KNOWN BUGS AND ISSUES

- In autolamp mode the intensity can go down within the first minute
- Exporting Reports fails on some systems for pdf, doc formats.
- 4 cuvette changer accessory calibration factors not implemented
- Spectrometer Events are not displayed
- No ratio data acquisition module implemented
- No ICBC calculator implemented
- Phos delay times > 3 seconds will not work properly
- Simultaneous time-drives for multiple samples not implemented

CONTACTS

In case of queries while using this software please contact:

BioLight Luminescence Systems Ltd.

Contact: www.BioLight.com
Support: Support@BioLight.com

REVISION HISTORY TABLE

Date	Revision	Description of Change Implemented
28.03.2014	01.03.02	**SamplePrep** - Fixed Bug: Sample list now displays required samples when result is loaded, even if they were not measured. **Concentration:** - New: Added point with reference and point with baseline reduction function, removed base reduction functions **Report:** - New: Report graphs are updated automatically when acquisiton types/ranges are modified - New: Report graphs are updated automatically when calculation curves are added - New: Added field firmware revision - New: Vertical position of graph can be changed, graphs can be positioned side by side - New: Templates can be saved to file and re-loaded **Validation:** - Fixed Bug: Min/Max caption were reversed in report. **Graph:** - New: Curve legends are updated when new curves are loaded **Generic** - Fixed Bug: License validation did not work on Systems using an other code page than Latin. - New : Enabled free of charge Add-Ons. - New: Updated example methods, added example report templates
10.10.2013	01.03.01	**Freeform Calculator** - Fixed Bug: Adding an info in sample info dialoque caused corruption of sample info. **StdExport** - New: The method name can be selected as part of the filename now **Routine** - Fixed bug: Autosampler picture is displayed correctly now - Fixed bug: Live display did not update during acquisition - Fixed bug: Corrected caption on Load Method, Save Data dialogue **SamplePrep** - Fixed Bug: Fixed bug when sample info columns are resized **Data Calculator** - New: Show/Hide global curves directly accessible now **Read** - New: Temperature column is displayed only, if temperature sensor is fitted **Manual:** - New: Live display temperature is displayed only, if temperature sensor is fitted - Fixed Bug: Peltier temp was not read correctly due to firmware change **Graph:** - New: Grids can be enabled/disabled from graph scale dialogue **Report:**

Date	Revision	Description of Change Implemented
		- Fixed Bug: Labels are correctly updated after Label Graph dialogue
16.08.2013	01.03.00	**Routine:** - New: Added new Routine application **StdExport:** - New: Added new StdExport module **Acquisition:** - New: Result GUID and result method GUID are changed automatically when result is saved - New: Method GUID is changed automatically when method is saved - New: Added range field for text fields in setup column dialoque for sample/standard information, allowing the user to define a selection list. - Fixed Bug: In sample and reference info tables the id and concentration fields were unlocked when methods/results were loaded. - Fixed Bug: On acquisition stop all unmeasured samples were removed from the sample list - Fixed Bug: Adding sample info to existing data caused an error sometimes **Administration:** - New: Added right group System with all rights, limited rights of group Administrator. - New: Duplicate login names or full names of users are now rejected, an error message is displayed. - Fixed Bug: BLStudio login mode was set to Windows login mode and vice versa when user login dialogue was displayed. **SamplePrep:** - New: Removed load sample button, added load sample info/save sample info entries to file menu instead. - New: SampleID column automatically expands when sample spread is reszized - Fixed Bug: Reloading results restores the standards/samples positions correctly now on trays/plates. **Data Calculator:** - Fixed bug : ID of a new calculation step is set to the name of the step immediately now. - Fixed bug : The value of a global variable is correctly displayed when the global var edit dialoque is started. - Fixed bug : Exiting the edit global var dialoque does not disable the edit/remove buttons any longer. **3D Viewer:** - Fixed Bug: Method parameters are hidden when no rights to edit method **Report:** - New : Added data fields Result Name, Result Creation Date, Result Created By, and Result GUID, removed Data Name. - Fixed bug : Process/method GUID is updated in report, when process/method is changed. **Generic** - New : Changed extension of resource files from .res to .rsc to distinguish from result files. - New: Added SetError and CheckErrorExt functions to BLEntry controls, - New: Tables now support auto-expand of any column when table is re-sized

Date	Revision	Description of Change Implemented
		- Fixed Bug: In printer set-up dialogue long printer names were not recognized correctly.
01.05.2013	1.02.04	**Acquisition:** - New: Added TEM support - New: Implemented start modes: External contact, file - New: Sample lists can be stored - New: Routine user cannot edit/save instrument configuration, updated main toolbar for routine user (can only start/stop method) - Fixed Bug: Methods were always stored in the default (user) method directory, independent of the selection in the method save dialogue - Fixed Bug: Reports were always printed to the standard printer, independent of the printer selected in the print dialogue - Fixed Bug: Acquisition terminated when trying to save a result, when no results were available - Fixed Bug: Sipper accessory was not supported correctly - Fixed Bug: Duplicate Id´s are detected now when entered in insert sample dialogue - Fixed Bug: Deleting a sample from a result and then adding a new sample inserted the sample instead of appending it - Fixed Bug: Selecting a result, changing the acquisition parameters, changing the tab, then saving the result caused the new parameters to be saved in the data - Fixed Bug: Saving a method updates method GUID correctly now - Fixed Bug: Saving a result updates the result GUID instead of the raw data GUID **SamplePrep:** - New: Standard table can be re-seized **Timedrive:** - Fixed Bug: In single read mode interval times > 3 seconds caused a time out **3D Viewer:** - Fixed Bug: If y-axis displayed samples the graph became invisible when only one sample was available. - Fixed Bug: If y-axis displayed samples cuts were not calculated **Concentration:** - Fixed Bug: Exponent function returned wrong sample concentrations. - Fixed Bug: Quadratic and cubic function sometimes returned negative concentrations. **Report:** - New: Method variables are already populated when method is loaded - New: Data GUID displays result GUID instead of raw data GUID. **Administration:** - Fixed Bug: Administration terminated when minimized - Fixed Bug: LoginName, FullName and directories are locked when no user is selected **Validation:** - New : Default y-axis ranges can be modified - New : Updated default set up - New : Removed frame in report - Fixed Bug: Changed mm to nm for slit widths in report

Date	Revision	Description of Change Implemented
		- Fixed Bug: Loading an old result sets the old parameter ranges for documentation purposes. When Validation was closed the old ranges were stored, overwriting the current ranges. **Freeform Calculator:** - Fixed Bug: User dependent configuration was not loaded correctly **Generic** - New : Added min option to graph scale dialogue - Fixed Bug: Range Tooltips can be localized now - Fixed Bug: User rights were not set correctly in data server - Fixed Bug: Sometimes variable names were detected incorrectly in formulae (e.g. If Test was defined TestBlank was interpreted as Test and Blank) - Fixed Bug: Set "prompt overwrite" flag in file save dialogues
21.01.2013	1.02.02	**Acquisition:** - New : Any changes to user information is recorded in the audit trail - New : Format of date string appended to the default result name has changed - Fixed Bug: Save result event was recorded twice - Fixed Bug: Exporting results does no longer change the result name **Administration:** - New : Supports Windows and BLStudio Login - New : Supports 3 right groups Admin/Analyst/Routine (hard coded) - New : All actions concerning the user management are recorded in the audit trail - New : Adding a licence is recorded in the audit trail - Fixed Bug: Protocol is spelled correctly now **Validation:** - New : Raw data are stored and can be re-loaded - New : Raman TD ex. and em. wl are user definable **Freeform Calculator:** - Fixed Bug: Current user was not detected correctly and caused an error when saving curves **SamplePrep:** - Fixed Bug: A user defined standard information col must be inserted behind expected conc **InstServer** - New : Added stirrer control for 4 Cell changer - New : Added reverse pump direction for sipper **Generic** - New : Modified file structure for data base compatibility - New : Add-Ons are localizable, resources can be re-loaded - New : Implemented right-groups/project-groups support - Fixed Bug: Replaced Windows 8 incompatible icons in toolbars
22.12.2012	1.02.01	**Acquisition:** - New : Removed all command line parameters except load data/load result **Administration:** - New : Added User managment - New : Supports user dependent method and data directories **Read:** - Fixed bug: WL and Slit entries are validated correctly - Fixed bug: Spread toolbar was not updated correctly

Date	Revision	Description of Change Implemented
		- Fixed bug: ExSlit format set to "0.0" **Scan:** - Fixed bug: Scan range is set depending on scan type - Fixed bug: Slit entries are validated correctly - Fixed bug: ExSlit format set to "0.0" **3D Scan:** - Fixed bug: Slit entries are validated correctly - Fixed bug: ExSlit format set to "0.0" **Timedrive:** - Fixed bug: WL and Slit entries are validated correctly - Fixed bug: ExSlit format set to "0.0" **Report:** - Fixed bug: Data names were not replaced correctly - Fixed bug: Total pages were not reported corrctly
03.12.2012	1.02.00	**Acquisition:** - New: Added ranges for phos. parameters - New: Added parameter when calling correction functions **Calculator:** - Fixed Bug: Qualified results (e.g. Blank.Int[]) were not recognized correctly. - Fixed Bug: Step results could not be used for further calculations. **Concentration:** - Fixed Bug: Intensity field ID was not set correctly => in report the corresponding table column was not populated. - Fixed Bug: Dissolution factor and final result columns were always send to report, even if not defined in sample information. **SamplePrep:** - Fixed Bug: 4-Cellchanger accessory did not work. **Instserver:** - New: Moved Dark Current measurement from calibration to source set-up dialogue . - New: Added "Turn lamp on when instrument starts" option. - New: Tray and plate definition files can be loaded from accessory set-up dialogue now.
17.10.2012	1.01.06	**Acquisition:** - New: Added automated correction functions (Autozero Baseline) for UV - Fixed Bug: An selected experiment result is unselected when new method is loaded (new method wrongly updated result method) **Calculator:** - New: It is now possible to use array elements (e.g. Y[2]) - Fixed Bug: Height was not correctly calculated for bases (negative peaks) **Concentration:** - Fixed Bug: Concentrations format was not stored in methods. **Generic:** - New: Added correction spectra (with collections dates) to reasults. - New: Added names for data queries
17.09.2012	1.01.05	**3D Calculator:** - New: X and Y cuts can be displayed simultaneously - New: Improved speed data is loaded and displayed. - Fixed Bug: 3D correction data was not stored correctly

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		Calculator: - Fixed Bug: Fixed bug in Copy/Paste function **Generic:** - New: Tabular data can now be saved to files directly from all tables. - New: Results store methods in datasets only, the result process references methods now, instead of keeping copies
23.08.2012	1.01.04	**Acquisition:** - Fixed Bug: Experiment data are unselected when new method is loaded or created **Calculator:** - Fixed Bug: Graph toolbar is displayed correctly now **Concentration:** - Fixed Bug: Concentrations of standards were not updated correctly when entered during data acquisition. **3D Calculator:** - New: It is now possible to generate 2D cuts - New: Added correction functions **Manual Control:** - New: Added emission correction **Graph:** - Fixed Bug: Removed debug message appearing when labels were moved. - Fixed Bug: Cursor labels can now be formatted correctly
24.07.2012	1.01.02	**Acquisition:** - New: All data collected during an experiment are displayed in a separate tab and can be accessed easily. - New: Experiment data can be saved and loaded as a single data set - New: The continue-mode was removed. The application automatically detects if acquisition parameters have changed and creates a new result if required, otherwise collected data are appended - New: Curves are not send to the calculator automatically any longer - New: Added option to save results in ascii format automatically - New: Curves can be overlaid in acquisition module - New: F2/F3 function keys turn instrument lamp on and off - New: Function keys support multiple instrument commands - New: Peak labels can now be located around the peak (before only above or below peak point was possible) **Sample Preparation:** - Fixed Bug: Sample position is updated correctly in sample list - Fixed Bug: Blank position is set correctly now when sampling accessory is changed - New: Added default column "Comment" for Batch, Standard and Sample tables. - New: Sample/standard ID is locked after sample was measured. - New: Sample information can be added to existing data. **InstServer:** - New: Removed integration time from instrument setup **Generic:** - New: Modules are now localizable - New: Auto scale option only rescales if data values are larger than max or

Date	Revision	Description of Change Implemented
		lower than min.
10.01.2012	1.00.06	**Acquisition:** - Fixed Bug: Toolbox start button was not updated to status "Continue" when data was loaded - Fixed Bug: Manual control was locked in continue mode - Fixed Bug: In new methods excitation correction was set incorrectly - New: User Group Analyst can be assigned in command line - New: Added function key handling **Conc Calc:** - Fixed bug: Number of decimals were not updated correctly in result table **Sample Preparation:** - Fixed Bug: SampleTable was not checked for invalid entries if automated sample accessory fitted - Fixed Bug: Loading data did not set the blank position correctly if automated sample accessory fitted **Manual Control:** - Fixed Bug: WPR Alignment did not work properly **InstServer:** - Fixed Bug: Tried to send command to non existing LS45 cutoff filter wheel - Fixed Bug: Response time 0 was not set properly in timedrive **Installation:** - New : Graph, spread and report server are installed in Windows system directory now
28.11.2011	1.00.05	**Acquisition:** - Fixed Bug: Export/Print buttons Report Toolbar were not deselected after dialog - Fixed Bug: Dependencies of data calculation method on acquisition method were not updated when run started - Fixed Bug: Check of license keys for add ons always returned valid - Fixed Bug: System configuration changes are synchronized to avoid clashes with Administration - New: Changed name (FlexStudio => Acquisition) - New: Changed About Dialog (new license key validation) **Calculation:** - Fixed Bug: corrected captions, removed control-box from all dialogs - Fixed Bug: In Peak.Height invalid start-end is replaced by min, max of curve - Fixed Bug: In CurvePoint invalid start-end is replaced by min, max of curve - New: In Filter Width is set to 7 by default - New: Improved calculation of Golay-Savitzky filters at border points. **Conc Calc:** - Fixed bug: Standard table/reduction parameter panel is updated correctly - New: Added resize function for Calibration Graph - New: Added dilution handling - New: Display of standard table depends on calibration mode rather than on actual nr standards **3D Viewer:** - Fixed bug: Scan parameters are displayed correctly now in table view **Report:** - Fixed Bug: Available fields,tables and graphs were not updated on LoadData

Date	Revision	Description of Change Implemented
		InstServer: - Fixed Bug: Events were not detected correctly - Fixed Bug: Ex,Em Filter position was not read correctly (+1) - Fixed Bug: Integration time was not set correctly in TD - Fixed Bug: Errors are now passed by ID rather than by code to avoid multi client clashes **Administration:** - New: Added event protocol view - New: Modified license key validation (one key per package) - New: Changed name (registration => administration) **Sample Preparation:** - Fixed bug: Tray/Plate reader definition files are imported via frame now => correct directories are selected - Fixed bug: Autosampler did not perform rinse, rinse pos was not detected - Fixed bug: Stirrer option was not displayed correctly for 4 cell changer - New: Added Load Sample Info Buttton **Manual Control:** - Fixed bug: Excitation/Emission wavelength is displayed with one decimal now **Validation:** - New: Individual slit and gain parameters are available for each test now. - New: Add button to set default parameters for corresponding spectrometer. - New: Updated SignalToNoise calculation. **Configuration:** - Fixed bug: ExCorr was set to True instead to On in example methods
15.09.2011	1.00.04 (EVAL.)	**Sample Preparation:** - Fixed bug: Cell changer invalid command - Fixed bug: Auto sampler invalid index error - Fixed bug: Sample table copy to/paste from clipboard - New: Moved Result info table on Samples page below sampler info panel **Manual Control:** - Fixed bug: Auto sampler (wrong command for purge) - Fixed bug: Correct captions in sample accessory control dialogue **InstServer:** - New: Instrument server is hidden now. **Configuration:** - New: Added 3D example data.
15.08.2011	1.00.03 (EVAL.)	- First evaluation version