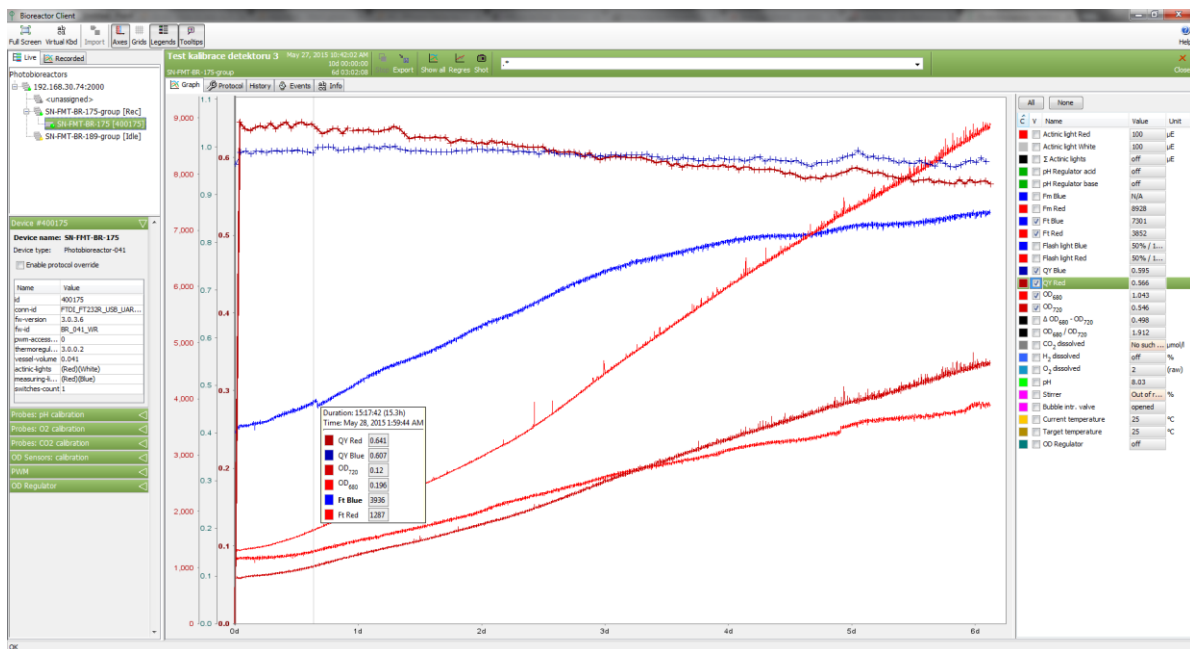


Welcome to Issue 20 of the PSI NEWS

This issue is dedicated to:

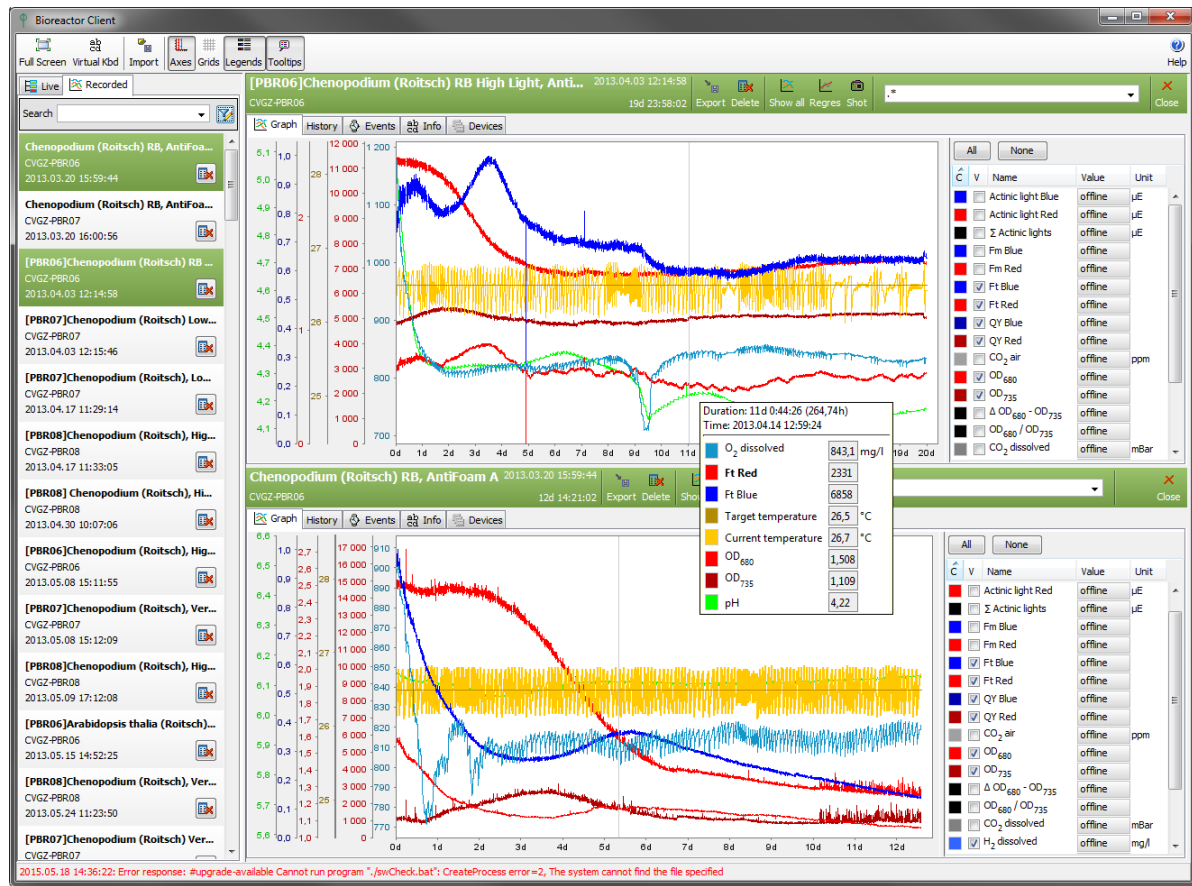
NEW Photobioreactor Software



- **PSI is introducing new control software for Photobioreactors FMT 150/400, FMT 150/1000, FMT 150/3000, as well as for Large-Scale Photobioreactors 25L and 120L**
- **New Photobioreactor software has similar appearance and includes all functionality of the previous Photobioreactor software, but is more user-friendly plus has some new extras**
- **Two editions available – Basic and Advanced for small Photobioreactors (FMT 150/400, FMT 150/1000, FMT 150/3000)**
- **Only Advanced edition available for Large-scale Photobioreactors**
- **The license is bound to hardware, but it is possible to transfer it in case of computer replacement**
- **You may easily upgrade your current Photobioreactor software to any edition of the new one - please enquire on info@psi.cz for details**

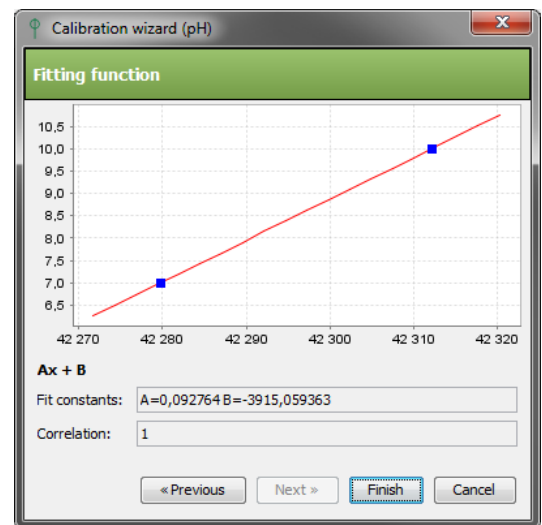
KEY FEATURES OF THE NEW SOFTWARE:

- User-friendly GUI
- Devices configuration - using drag & drop, status icon
- Graph tooltips, legend panels
- Searching in recorded experiments and saved protocols
- Mail notifications
- Online software upgrades
- User rights management
- User-friendly calibration component provides GUI for temperature and measurement calibrations of the connected sensors. It stores current as well as past calibration data and allows tracking of the changes
- Any edition must be provided with a license file, otherwise the software will not start



BASIC EDITION CONTAINS:

- Online software upgrades
- Accessory calibrations
- Change protocol of running experiment
- Restore running experiments after laptop reboot
- Recording of raw sensor data
- Record custom/system experiment events
- Export experiment to MS Excel/OpenOffice
- Recorded experiments filtering
- Users and rights management
- OD regulator (Turbidostat) protocol support
- pH Regulator (Chemostat) protocol support
- External lights protocol support
- PWM pump/Stirrer protocol support
- Individual Ft/QY measuring



ADVANCED EDITION CONTAINS:

- All features of the Basic edition
- Email notifications
- Allows to send low level device commands
- Scripting support in protocol
- Individual measuring periods in protocol
- Import old experiments
- Scheduled experiments
- Monitor and notify accessory value range
- Customer defined series in experiment graph
- Gas Analyzer support
- Gas Mixer support
- Additional peristaltic pumps

The screenshot shows the 'Actinic light White' protocol editor. A 'Script editor' window is open, displaying a Java script for controlling an OD accessory. The script includes package imports, variable declarations, and conditional logic to query the OD value and control the light based on it.

```
importPackage(java.util);
var curOd = theGroup.getAccessory("od-sensors.od-680"); // query OD accessory by key

if (curOd == null || curOd.hasError()) {
    result = theAccessory.getValue(); // do not touch the light if OD has error
} else {
    var odVal = curOd.getValue().doubleValue(); // get OD value
    if (odVal > 0) {
        var lightMax = theAccessory.getMax().doubleValue();
        result = Math.min(odVal * 1000, lightMax); // light = min(od * 1000, lightMax)
    } else {
        result = theAccessory.getValue(); // do not touch the light if OD < 0 (???)
    }
}
```

The screenshot shows a configuration panel for a protocol. It lists two target flow settings:

- GM target flow (inactive)
- GM valve #0 CO₂ target

Below these, there are two rows of configuration for peristaltic pumps:

- Duration: 12:00:00, Constant, Value 40 ml/min
- Duration: 12:00:00, Constant, Value 2000 ml/min

To upgrade your Photobioreactor software to the new version, please contact us at info@psi.cz